

## A change of mind

BY LYNDA WILSON

Having taken a 10-week overseas trip, followed by two weeks preparing for and attending the Seymour Alternative Farming Expo on my return, the building project has pretty much come to a halt.

Not that I could have got too much done anyway, as the plans did not come back from council in the time expected, and were finally approved on 1 March 2010. However, the time could have been spent following up on quotes and searching for tradespeople, which I can now get on with.

And, in typical owner builder and female style, I have changed my mind! In TOB 155 Oct/Nov 2010 (p.73), I listed our main criteria. One of those was internal thermal mass in walls and/or floors, which we planned to incorporate with a suspended concrete slab in the living area, and a thermal mass wall to the south side of the area.

Due to the potential overshadowing from the block to the north, we have designed our house to have clerestory windows to bring light into the house. However, the size and location of these means that no sunlight will reach the concrete slab, in summer or winter, and the amount of sunlight reaching the south wall in the living room would only be the equivalent of an 800watt heater. The benefit of thermal mass, especially in winter for heating, will therefore not be used to its full potential (see sidebar). It could work against us in the winter, as we have no need to use heating regularly and sun will not reach the slab, therefore not helping to recharge the thermal mass. So the thermal mass will instead work in a negative way by drawing any heat that is available, but never heating up sufficiently to release any overnight.

In addition, early enquiries with providers of suspended slab systems have raised a few problems. There is limited access to the block from the

front and rear, and it is only 10m wide, with the slab positioned more or less in the middle of its 50m length. This would mean a crane or pump would be needed to stretch from the access point, which could be very costly. It would also mean having to get the power lines in the street covered over and the potential closing of the street.

Diurnal range in the area is not high (typically less than 10°C) and mean temperature ranges are: summer 19 to 26°C, winter 8 to 17°C. However, our location is nearly entirely surrounded by water – ocean to one side and river on the other two. This large natural thermal mass helps keep the local microclimate quite temperate.

So, weighing up the problems on one hand, against the diminished benefits on the other, the decision was made to go with a timber floor throughout. Of course, this means the plans need to be changed, an energy assessment rerun, and then an amendment submitted to council. Bugger!

While travelling, we found ourselves drawn to flooring, kitchen and bathroom showrooms, looking for ideas.

In a bathroom showroom in the UK, we were very impressed with the large range of tiles and bathroom fittings available in just one shop. We loved the copper, stone and aluminium baths from bcdesigns ([www.bcdesigns.co.uk](http://www.bcdesigns.co.uk)), but they were well beyond our price range even if they were available in Australia. It is nice to dream though...

The UK equivalent of Bunnings, B&Q, also had a wonderfully varied and good quality range of bathrooms and kitchens ([www.diy.com](http://www.diy.com)). We stumbled on glass backed gas hobs ([www.whirlpool.co.uk](http://www.whirlpool.co.uk) and [www.aeg-electrolux.co.uk](http://www.aeg-electrolux.co.uk)), which I had wanted but hadn't known existed. I have since seen one in Australia, so they will no doubt be making their way over here soon.

In South Africa, we came across a product called QuartzCarpet, a flooring which is made up of small rounded stones combined with a resin ([www.quartzcarpet.co.za](http://www.quartzcarpet.co.za)), which felt beautiful underfoot and seemed like a great idea for the living area. We also saw an abstract stainless steel design set into the concrete floor of a surf shop, which looked fabulous and is on our list of 'would be nice.' Just goes to show that inspiration can be gained in all sorts of odd places!

And so the adventure continues – so many more decisions to be made... ■

### Your Home Technical Manual

*This is a great online resource guide for building a sustainable home. It suggests the following as regards thermal mass:*

During **summer** it absorbs heat, keeping the house comfortable. Allow cool night breezes and/or convection currents to pass over the thermal mass, drawing out all the stored energy. During the day protect thermal mass from excess summer sun with shading and insulation if required.

In **winter** the same thermal mass can store the heat from the sun or heaters to release it at night, helping the home stay warm. Allow thermal mass to absorb heat during the day from direct sunlight or from radiant heaters. It will re-radiate this warmth back into the home throughout the night.

Thermal mass is most appropriate in climates with a large diurnal temperature range.

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