



A last minute addition, the chalkboard under the kitchen window provides much entertainment for the whole family. **opposite** The floor-to-ceiling glass doors in the dining room open up to create another living space outside.

Principles & A rapidly expansion of the reports it has re-

A rapidly expanded family [yes, twins] and a limited budget drove an architect couple to design their renovation in stages. As Jane Riley reports, it has resulted in a unique home that demonstrates how to live well in small spaces.

When architect Sam Crawford and his wife, Jane, also an architect and visual artist, were looking to buy a house, they ended up going no further than that of Sam's brother.

The house ticked all the boxes on their wish list. It had a northerly orientation, was situated in an inner city locale, was within a bike a ride to Sam's work and had an unusually large set-back of 2.2 metres from one of the houses next door.

While this Sydney Queen Anne-style brick house needed work, they could see as Jane says, "its hidden benefits" and potential. They decided to live in it first before undertaking any major renovations and to carefully plan the changes to not only serve them in the short term but evolve to work for them long-term as their family not only grew, but grew up.

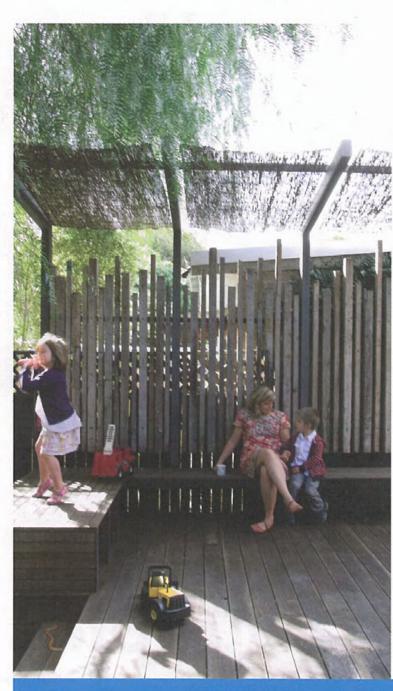
"The first thing we did was take a few things down, such as the pergola and carport," Sam says of the house, which they bought eight years ago. "Then we started planning what we would do so that when we renovated we wouldn't do anything that needed reversing."

It is this careful planning that has made the house become rather like a work-in-progress that can be adapted according to their changing needs. For instance, in the second bedroom on the ground floor, which was originally home to their four children when they were toddlers, they designed and positioned the wardrobe knowing that the room would eventually become a laundry and the wardrobe the linen cupboard, which is how it is today.

The washing line was strategically placed for easy access from the laundry and this meant other structural changes had to work around it. A custom-built storage and shelving unit created for the living room was designed specifically to have the older two children's toys accessible in this space so that the younger twins' daytime sleeps weren't disturbed in the bedroom. Jane also specified that it be built to the floor to maximise storage space.

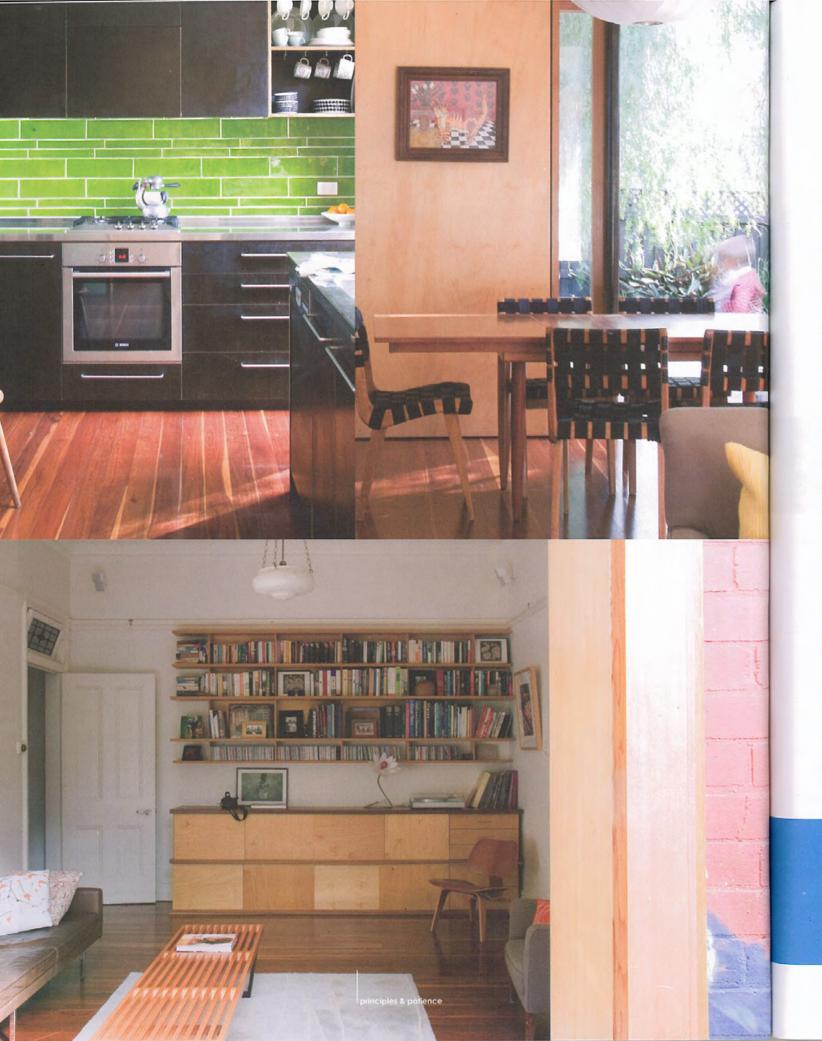
A cubby house, made by Sam from discarded building site materials and a friend's carport he helped pull down, slotted into the space between their house and their neighbours'. It is now Jane's painting studio and may one day be turned into the master ensuite bathroom. They also plan to put in custom-made doors between the living and dining areas to make them separate rooms and although they are not yet ready to do this, have already gained approval for a garage space that could also become a fourth bedroom or extra living space.

"It's about staging the project, which is mostly costdriven, but we do find that the brief changes," says Jane. "But that's not a bad thing from a green perspective because it means you wait and get really good quality that will last."



A large, existing peppercorn tree and recycled timber plank screening provide shade and privacy to the deck. opposite Graffiti art adorns the brick wall on the eastern side of the house.







A large deep-framed window in the living space works as a doorway in the summer, a seat in both summer and winter and a stage for the children's plays, opposite page top left The new kitchen is a striking addition with its black-stained formply joinery and bright green handmade tiles, right Although the dining room is compact, when it's opened up the Crawfords can easily host up to 40 people, bottom Custom joinery and recycled furniture fill the living room.

The main part of the renovations involved adding on a second storey; moving the bathroom from the dining area to its current spot off the laundry; widening the living and dining spaces; providing more light and access to the outdoors; enlarging and re-doing the kitchen.

"We chose to put the children upstairs," says Sam, "because of cost considerations as we didn't want to put plumbing up there [for an ensuite bathroom] and we wanted them to feel like a little team so it's one space which can be divided later."

Floored and lined in rotary-cut plantation hoop pine plywood with sloping ceilings and large north-facing windows, the space is like a light airy tree-house. Although it is one room, it is divided by a staircase and storage unit not built into the corners so as to ensure good crossventilation.

A unique aspect of the upper floor is the hidden rubber underlay. "We wanted it to be different to other upper level additions where you can hear all the noise [from below]," says Sam. "We've isolated the structure on rubber pads made from recycled car tyres. There's a layer of plywood, then a layer of rubber, then plywood. So you can jump up and down and not be heard downstairs."

They did the same with the stairs using recycled Ironbark placed on rubber on plywood. Setting the edges of the Ironbark away from the walls not only creates a distinctive look but aids in the sound proofing.

In extending the dining space, they took away the old bricks that were falling down and opened up one corner with floor-to-ceiling timber doors that open to the courtyard and, in the living room, made a large doubleglazed frame-like window that slides away and can be used as a seat in both the summer and winter.

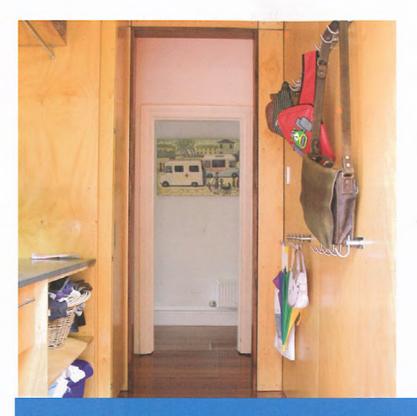
While the electricals had to be re-done and the original borer-infested Baltic pine timber floors replaced with recycled Ironbark from an old pub in Queensland, much thought was given to reducing waste, recycling and keeping materials in their truest form. They used form ply for the kitchen joinery, recycled what bricks and timber they could and didn't discard the short lengths or knotted planks of the new timber flooring. The house is heated by using evacuated solar tubes on the roof which heats the hot water cistern and supplies the wall-hung radiator heaters.

Handcrafted touches help make this house unique. The brick wall on the courtyard side has been painted by some local graffiti artists and then added to by work colleagues and the children. Paintings by Jane and friends hang on the walls, as do photographs of African children taken by the founder of NGO, Friends of Claude Ho in Thyolo Association (FOCHTA), in which the Crawfords are heavily involved.

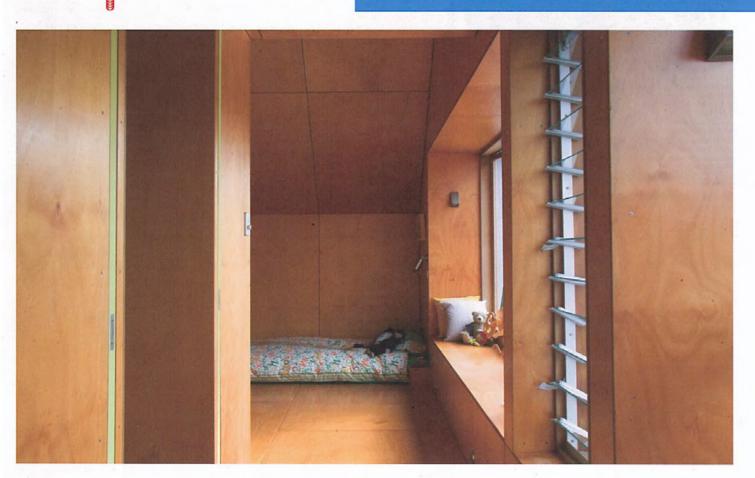
The kitchen splashback and bathroom tiles, designed to mimic seaweed that glows underwater, are handmade by Melbourne artist Brigid Courtney.

Most of their furniture is secondhand, including a sideboard from a deceased estate, a sewing table from Recycled Garbage in Marrickville, a side table from eBay, Sam's grandmother's armchair, and a shelving unit Sam made when he was at university.

While Sam and Jane's family increased more than they had originally intended they have stayed true to their sustainable architectural principle of "building well, building rarely and building only what you need". And they are living proof that a family of six can live comfortably in a house that is only around 24 square metres per occupant when most houses are double this. For as Sam says, "environmentally the biggest thing you can do is make small spaces".



top The laundry doubles as a walkway to the outside and features multiple hanging hooks for the four children. bottom The upstairs children's bedroom addition was kept to a minimum so it wouldn't overshadow their western neighbours.



Specs:

Architect

Sam Crawford Architects

Sam Crawford, Jane Crawford, Leanne Borg www.samcrawfordarchitects.com.au

Builde

Isaac Sarty with (owner builders) Sam and Jane Crawford

Structural Engineer

Partridge Partners, Ron Rooke

Floor area

140 sq m

Materials

Recycled brick walls, recycled Ironbark flooring, recycled Douglas Fir screens, plantation Hoop Pine plywood floors/walls/ceilings, Spotted Gum decking, steel frame, raw formply and recycled Blackbutt joinery.

Glazino

Double glazing, low-E glass single glazing, with plantation Western Red Cedar frames and recycled Blackbutt sills.

Heatin

Hydronic radiators powered via heat exchange tank by roof mounted evacuate solar tubes with gas back-up.

Cooling

Natural ventilation, use of thermal mass.

Insulation

R3 thermal insulation batts, Regupol rubber acoustic insulation.

Bathroom

Bathroom tiles and kitchen splashback: handmade tiles by Brigid Courtney.

www.funderestudios.com.au/OrangeRock/biog.htm





3/ laundry 4/ living

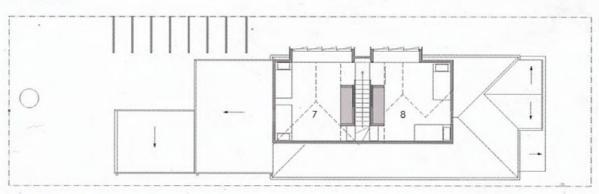


7/ kids' bedroom 1 8/ kids' bedroom 2



left A veggie patch on the nature strip extends the garden and encourages neighbourly activity. right Bricks reused from the original graffiti wall create a lovely patchwork effect on the addition.

Second Floor



Ground Floor

