Sanctuary of the second second

7.5-Star first home on a budget; insulating existing walls; bushfire survivor house; councils kicking goals on climate action; how to create a lush living fence

# Exactly enough

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Compact yet comfortable Tassie cabir

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An Earthworker-Reclaim heat pump hot water system worth \$5,000 from the Earthworker Energy Manufacturing Cooperative ee

Offer open to Australian residents. Details page 91

# Conversation between eras

LOCATION Fitzroy North, VIC • WORDS Rebecca Krispin • PHOTOGRAPHY Tatjana Plitt



# At a glance

- Small-footprint, all-electric house
- Faithfully reconstructed and thermally upgraded heritage facade and front rooms
- Passive solar designed, light-filled extension that opens to the rear streetscape

The renovation of this heritagelisted Melbourne cottage perfectly blends the way things were done then and the way we can choose to live now, celebrating history while embracing modern, energyefficient design and connection to community.

For many years this 1900s heritage cottage was simply the home of Fitzroy North couple Kate and Rick's kind, elderly neighbour. When she went into care and the cottage came up for sale, they decided to buy it. As their house is to the south, they wanted to avoid a new build blocking out their light and sun. They were also considering future family options such as downsizing themselves or using it as a home for their adult daughter, or simply renting it out.

The couple chose Northcote-based architect Ben Callery for the much-needed renovation of the house. "I saw an article about Ben's work in the paper and I was really impressed that he'd done a lot of inner-city work and had a really strong focus on light," says Kate. They were also keen to make it as eco-friendly as possible, and Ben's practice specialises in environmentally conscious design.

The front section had to meet City of Yarra heritage regulations, which dictated maintaining the existing form of the two front rooms and facade. For the rear section, however, Ben had the freedom to create a modern design with an emphasis on light and sustainability.

In the end, the front rooms and facade had to be reconstructed from scratch, because after obtaining the permits and starting to build, the team quickly discovered that the heritage part of the house was completely unsalvageable. "And then we had to go through the whole planning process again to be able to pull it down and rebuild it," says Kate. The rebuild required specialist tradespeople to recreate the heritage features, and resulted in lengthy delays and an increase of ten to fifteen per cent in costs. Fortunately, all parties remained committed to the project, and some positives emerged from

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"The project is a juxtaposition between the front half, which was designed to suit what the values were a hundred years ago, and the back half, which is very different and designed around what we value now: much more interaction with the local environment," says architect Ben.









Reclaimed spotted gum floorboards provide an appealing contrast to the black and white colour palette.



The rear section design lets the living room flow out into the small courtyard, and a big sliding gate enables the courtyard to connect with the back street when desired.

the process. "In rebuilding the front two rooms we could put in much higher levels of thermal insulation, double glazing, and thermal mass. We couldn't change the orientation of those rooms, or window sizes, but we could at least make the building envelope much more thermally sound as well as structurally stable," says Ben.

Kate and Rick also realised that they were in fact preserving features from the whole history of the house, not just the original build. This included elements added by the Greek family of their former neighbour, and possibly other owners as well. For example, in addition to the original stone steps and lintel, the heritage specialists painstakingly removed, restored and reinstated a pair of unique pyramid features sitting at either end of the decorative parapet, which were most likely added by the Greek family.

This lengthy process led Rick and Kate to reflect on how they could add to this history, by stamping something of their own story onto the building. Kate's maternal grandmother was an Indigenous Australian from the Western Australian Wangkatha tribe, also known as the Wongi. "She was living on country, speaking language, and was hunted down and removed in the early 1900s - at the same time as this house was being built, here on the other side of Australia," says Kate. "I thought how ironic on the one hand, but also significant to have the house named with the name of my grandmother's tribe, given that this house was being constructed as their groups were suffering the deconstruction of attempted genocide." The name Wongi is now proudly stuccoed on the parapet – a contrast to the other largely Anglo-Saxon terrace house names in their street.

Inside, Wongi has indeed been transformed into something special. The front section, with two bedrooms, is simply a more comfortable version of the original, but the rear section brings something completely new. According to Ben it is "designed around lifting up to the sun".

The rear section roofline rakes dramatically up to the north, bringing sunlight into the upstairs bedroom and downstairs living area, while remaining low on the southern side to avoid



overshadowing Kate and Rick's residence. There is lots of glass facing north and west, all with operable shading. Large windows built into the angled roof have external venetian blinds, and bifold doors with a folding awning open to the rear courtyard. The awning extends the living space, which is important in a house with a small footprint.

As well as passive solar design, the house features double-glazed windows, high levels of insulation, and thermal mass in the double brick walls and concrete slab. It is all-electric, with a small solar PV system, a heat pump for hot water and hydronic heating, and an induction cooktop.

One of the cottage's unique features is that it has two street frontages. The couple find that the rear street is much quieter, with very community-minded neighbours. Ben's design includes a big sliding gate at the back of the property, which allows the living room and courtyard to open up and connect with the street.

FIRST FLOOR PLAN

(11)

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Maddie Johnson has been renting the house with three flatmates since the renovation was completed late last year. She says that they don't feel crowded in the cleverly designed three-bedroom home, though at 120 square metres it's not large. "We love living here, we're so lucky. It's so light-filled and always bright and airy," she says. They rarely use the heating or air conditioner and have been amazed by the thermal efficiency of the house. Their first quarterly electricity bill was \$200, with four people living and working from home.

For Kate and Rick, the Wongi project was a chance to connect an important part of their family history to the street and community they have lived in for so many years. "I have this real sense that as a society we're very poor at integrating our history, and this was an opportunity to do that in a really concrete way," says Kate.

Ben loves the outcome. "It does create a really nice, interesting juxtaposition between the old and the new. We're really proud of that result," he says. •



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High windows to the north bring in sunlight and warmth, and are equipped with mechanised external blinds for shading in summer.



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(8)

- ① Courtyard
- (12) Gate to back street
- Solar panels

# HOUSE SPECIFICATIONS

# RENEWABLE ENERGY

• 2.64kW system (8 x 330W Q Cells panels with Enphase micro inverters) from Solar Gain

# WATER SAVING

• Small raingarden takes all rainwater from roofs as required by City of Yarra

### PASSIVE DESIGN, HEATING & COOLING

- Rear section roof rakes up to the north to accommodate clerestory windows above the party wall on the northern boundary, for solar gain and natural light
- Adjustable external blinds to northern windows for summer shading
- Many rooms have openable windows on two sides to create cross ventilation
- Double brick walls and concrete slab for thermal mass

# ACTIVE HEATING, COOLING & HOT WATER

- Galletti MCI 16kW heat pump provides domestic hot water and hydronic heating in panels; supplied by Mercury Heating & Cooling
- Daikin Zena reverse-cycle air conditioners:
   6kW in living area and 3.5kW in upstairs bedroom
- Airfusion ceiling fans in all bedrooms and living space

# **BUILDING MATERIALS**

- Double brick construction using recycled bricks to party wall on boundary; brick veneer using recycled bricks to rebuilt front section; timber frame construction to new section
- Colorbond roof
- Fielder's Boulevard Colorbond steel cladding to new section
- Concrete slab floor topped with reclaimed spotted gum flooring from Urban Salvage
- Insulation: Bradford Gold High Performance glasswool batts (R5) to ceiling; Air-Cell Retroshield (R0.14) to roof; Autex Greenstuf batts (R2.5) to walls plus Foilboard Ultra 20 over battens; 30mm extruded polystyrene (XPS) insulation (R10) between slab and timber flooring
- Stainless steel kitchen benchtop

# WINDOWS & GLAZING

- Double-glazed windows with low-e coating used throughout
- Louvre windows with low-e coating used selectively where maximum cross ventilation required
- Victorian ash frames to front rooms
  Rylock AA series aluminium frames to extension
- Steel frames to double-glazed rear bifold door
- Mechanised external blinds and awning by
- Shade Factor

# LIGHTING

- LEDlux Infinity Mini fixed LED downlights and LEDlux City II adjustable LED downlights throughout
- Sõrmus pendant lights from Satelight in bedroom
- Rise & Shine pendant from Volker Haug in living space
- Nevada 1 Light spotlights and Marcel pendants from Beacon

## PAINTS, FINISHES & FLOOR COVERINGS

• Floorboards finished with Bona Traffic waterborne polyurethane

# OTHER ESD FEATURES

- All-electric house
- Premier Hydropavers permeable paving to courtyard



**DESIGNER** Ben Callery Architects

BUILDER Clancy Constructions

**PROJECT TYPE** Renovation

LOCATION Fitzroy North, VIC

COST \$1.1 million

SIZE House 120m<sup>2</sup> Land 148m<sup>2</sup>

ENERGY RATING 6 Stars

ENERGY RATER Floyd Energy

#### INSIGHTS

"In this project, we reconsider how to engage with the community. While the original house presents to its streetscape with the grandeur of an elevated vantage, high parapet and small private windows, the addition engages with its rear streetscape more openly: at grade, with a retractable sliding fence, full-width bifold glass doors and a folding arm awning that draws the living spaces out to the street."

Ben Callery, architect