

Not a Hero House

combines the generosity of a Californian Bungalow with the compactness of an energy-efficient house.

This home aims to reduce operational energy through passive solar design and services, and minimise embodied energy through space-efficiency and material choice.

Passive solar design principles

were applied: zoning, layout, planning, building form, material selection, solar control, cross ventilation, and details that reduce thermal bridging. All habitable rooms face north and storage and utility areas face south. The footprint is smaller than that of similar homes.

The materials

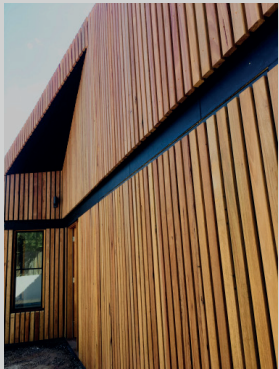
were chosen for optimum thermal performance and low embodied energy where possible: timber trusses instead of structural steel, recycled brick, timber, double and triple glazed windows and insulated hatches. As a result, the home achieves a rating of 7.4 stars.

The roof

collects rain water and is laid out for a 8.7kW solar PV system. 11,200 litres of rainwater is collected for the garden, WC, laundry, shower and all vanities. Hot water and hydronic underfloor heating come from heat pumps instead of gas.

The building is modest

but the roof overhang, the simple twist in plan and expressive sun shading give it a generosity like that of a traditional Californian Bungalow.



steffenwelsch.com.au

Steffen Welsch
Architects



(03) 9988 9411
info@steffenwelsch.com.au

7/23-25 Gipps st,
Collingwood, 3066

not a hero house

sustainable house day 2019



LARGE NORTH
FACING ROOF

READY FOR 8.7KW
SOLAR PANEL SYSTEM
(paid back in around
5 years)

HIGHLY INSULATED
(R6 in roof)

HIGHLY INSULATED
(R2.7 in walls)

DOUBLE AND TRIPLE GLAZING

RECYCLED INTERNAL
BRICKS (thermal mass)

HOT WATER BY
HEAT PUMP

TIMBER FRAME
(lower embodied
energy than steel)

HYDRONIC HEATING
FROM HEAT PUMP

MOTORISED EXTERNAL
SUN SHADING

INSULATED TIMBER
HATCHES FOR VENTILATION

THERMAL MASS IN SLAB
(R2.5)

FLY ASH IN CONCRETE SLAB
(recycled industrial by-product
with less carbon emissions)



ALL LIVING AREAS FACE NORTH

RAINWATER COLLECTION
OFF ENTIRE ROOF
(11,200 litres)

FIRST FLUSH DIVERTER,
LEAF EATER & FILTER FOR
HIGH WATER QUALITY

CEILING FANS FOR
AIR MOVEMENT

EVENEER
(FSC certified timber)

NO GAS

RECYCLED TIMBER

UTILITIES & STORAGE
LOCATED SOUTH

TOILETS, SHOWERS, VANITIES
& LAUNDRY ON TANK WATER

HOUSE INTEGRATES
WITH STREET SCAPE

TIMBER BATTENS
(shades facade to
minimise overheating)

FIXED SUN SHADING
(blocks summer sun and
allows winter sun)

BI-FOLD SUN SHADING
& PRIVACY

CROSS VENTILATION

the design



Not a Hero
House



Water Wise
House



Passive
Solar House



Reach for
the Stars

