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Modern Dugout

text: **Jane Burton Taylor** photography: **Brett Boardman**

Christopher Polly's extension of a Sydney semi to accommodate a family of five targetted its under-utilised undercroft area and ... a jacaranda tree.

A modest two-bedroom home was initially the perfect fit for the owners of this semi in Sydney's inner west suburb of Annandale. But from day one the couple say they had their eyes on the future and their plans to have a family, when they knew they would have to reinvent the house. They always hoped there would be scope to extend and they were right.

"We moved here six years ago," one of the owners says. "We loved the house but we knew it would eventually be too small, so when I had my first child we started looking for an architect. My husband saw Chris Polly's work on the internet and we invited him over. Chris had great ideas and he thought we could [excavate and] do a lower floor extension."

"It was a typical semi with two bedrooms, living and kitchen at the back," the owner explains. "There were stairs at the back leading down to the garden and a disjointed undercroft area. My husband used to work down there on the computer and I used to call out to him through the floorboard cracks in the kitchen. We used to call it the dungeon."

Polly says it quickly became obvious that the couple could take advantage of the falling block and capitalise on this "dungeon" area, a partially existing and potential subterranean space below the semi. Another aesthetic insight was the architect's realisation that they could focus an entire new two-storey addition on a magnificent existing jacaranda tree in the rear garden.

"We really wanted to be able to utilise the outdoor space," the owner says. "And when I had a baby it was a bit dangerous, going down the stairs with the baby in one arm. We wanted to be able to walk straight outside." →



The modest, restored front façade of the semi. **opposite page** Taking advantage of the slope of a deep block, architect Christopher Polly added a two-storey addition to a modest semi in Sydney's inner west, glazing the entire rear façade to maximise light and an outlook onto a mature jacaranda tree.



top left By excavating the site, a new lower living space was created. **right** A new upper level parent's retreat has a solid wall to near neighbours but a large highlight window to let in northern light. **bottom left** The new living space includes a kitchen that faces out to the garden, plus a bathroom and laundry at the rear. **right** The upper floor bathroom features a wall and floor of colourful tiles chosen by the owners.



Unlike the original semi, the lower level is now connected to the upper floor by an internal staircase, which incorporates understair storage.

Polly's design connects both the new upper and lower floors to the garden: the upper visually, via a floor to ceiling low e-glass wall, and the lower, with a direct physical link of stacking glass doors, just as the owners had hoped. He also fulfilled the clients' brief for another bedroom, an ensuite, a home office and an additional living space. The former, a generous parents' retreat, is slotted into the upper floor extension, and the latter, a second family living space, into the new lower ground floor, which opens out to the garden and a natural mound, out of which the jacaranda grows.

In addition, Polly opted to continue the circulation of the house along the same northern alignment as the original semi, and so he has delivered even the staircase to the new lower level an inspired outlook. "The circulation faces the jacaranda tree, so you get a full view of it as you are going downstairs. You actually look directly into it," he says.

To stitch the old and the new together, Polly designed a roof with a box gutter at the junction between the two. The reversed hip roof actually angles up to maximise the easterly outlook, and to facilitate a generous highlight window to bring in northern sun. (Both north- and east-facing windows have retractable blinds for shading.) The roof angles down slightly on the southern side to minimise visual bulk of the new addition to the neighbour on that side.

Meanwhile the totally private new ground floor contains an airy living space, kitchen and behind it, burrowed into the block, a bathroom and laundry.

Polly says to achieve this new semi-subterranean living area for the now family of five, they did extensive site preparation. Essentially they had to excavate around two metres down and back into the block and then, with the engineering acrobatics of "needle propping", they stitched in the old upper walls to new lower brick

walls, built up from the now deeper ground level.

Both the kitchen, which runs across the block, and the new living space have plenty of light due mainly to the glass doors onto to the garden. Natural light is introduced into the bathroom and laundry (behind the kitchen) via highlight glazing. In the laundry the fixed glazing is replaced by louvres. The highlight windows continue into the living space, ensuring privacy from neighbours but adding southern light.

The owner says the design of the kitchen, together with the nearby functional rooms, works very smoothly for family life. "You can be here and see everything the children are doing," she says. "In the evening, because there are three of them, it is convenient being able to have them in the bathroom while I work here. It is safer and it is not far to go to the laundry! It is fantastic with everything being so close."

Most pleasing of all though, she says the house now has a relationship with the back garden. A concealed rainwater tank forms part of the privacy screen to the northern neighbours, while a simple terrace gives the family an outdoor living space under the shelter of the jacaranda, an area which both visually and physically extends the internal sitting space of the new ground floor.

The new upstairs parents' retreat similarly enjoys a tranquil outlook, with a view into the canopy of the jacaranda, which changes depending on the season, and the garden beyond it. The tree even changes the light in the bedroom by the hour, the owner says. These subtle resonances of the natural world are now witnessed each day.

"At night I stare out at the stars and the moon. In the morning we get beautiful shadow play from the jacaranda up on the ceiling. I watch it for five minutes every morning before the children wake up. Yes, we are very happy with it," she says.





Both the new staircase and the parent's bedroom now look directly onto the gracious old jacaranda, which provides shade in summer.

Specs

Architect

Christopher Polly Architect
christopherpolly.com

Builder

R.G.Gregson Constructions
rggregsonconstructions.com.au

Passive energy design

The project retains its original envelope as part of its environmental, economic and planning values. New work is substantially embedded within the existing footprint and carefully crafted within the retained masonry envelope as part of its overriding environmental strategy, while the added footprint is modest and lightweight. Window placement improves natural light and promotes passive ventilation, assisted by ceiling fans and a roof venting system to exhaust trapped heat out of the original roof space; Demolished sub-floor bricks were salvaged and reused to rebuild the downward-extended enclosing masonry walls of the original envelope to minimise carbon input – reinstating and increasing thermal mass in combination with a lower ground floor slab.

Materials

Products and materials selections were all integrated for their life-cycle durability and performance in their respective applications. Colorbond steel for roofing and folded-cap roof and wall edges for its durability, long life, reusability, recyclability and high strength-to-weight. Scyon Axon fibre-cement wall cladding for its durability, low embodied energy, longer life expectancy, low maintenance and low cost of repair. Concrete slabs to the lower ground floor and rear terrace for durability, thermal and resource efficiency, long life and thermal mass. Western red cedar for sliding doors, pivot-stay and fixed windows for its lightness, durability and dimensional stability in these applications. Smeg oven & cooktop.

Flooring

Lower ground: polished concrete slab with Concrete Colour Systems integral Onyx oxide and satin acrylic sealer.
Ground: solid pine tongue and groove new and existing strip flooring with Feast Watson tung oil finish.

Glazing

Western red cedar framed sliding glass doors, pivot stay windows, hinged door and fixed window to stair void – all with Viridian ComfortPlus low-e glass.
Capral anodised aluminium shallow frames for fixed glazing and Breezway Altair louvres to the laundry – all with Viridian ComfortPlus low-e glass.
Velux double-glazed fixed skylights to original roof.
Pyropanel Fire Window to upper north face incorporating Forster non-insulated steel frame and 13 mm Pyrodur clear intumescent fixed glass.
Horiso external louvre blinds.

Heating and cooling

External fabric and metal louvre blinds enable solar penetration to be tempered or maximised when required. In winter, extra heat is provided by an in-slab heating system.

Hot water system

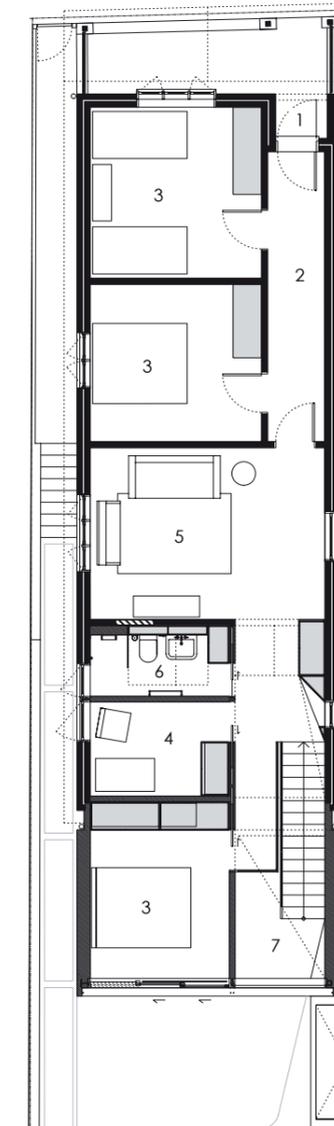
Rinnai Prestige System 330 L close coupled solar, gas boosted with an internal Rinnai 26i instantaneous system.

Water tanks

Concealed 2000 L Colorbond Waterpoint Slimline rainwater tank for garden use.

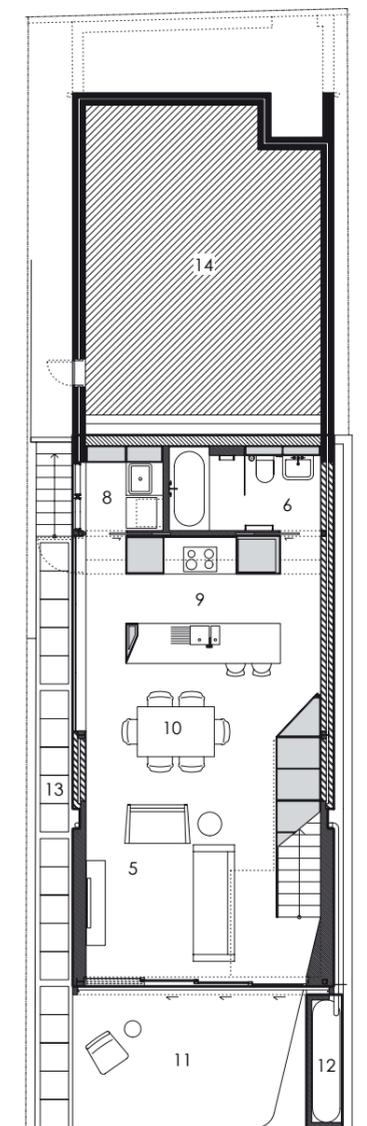
Lighting

Energy efficient lighting for all internal fittings (Mayuhana, Skygarden and XAL pendants, Flos and Rovassi downlights, Wedgie uplights) and all exterior fittings (Lumascap wall and in-ground uplights).



Ground Floor

- | | |
|-------------|-------------|
| 1/ entry | 6/ bathroom |
| 2/ hall | 7/ void |
| 3/ bedrooms | 8/ laundry |
| 4/ study | 9/ kitchen |
| 5/ living | 10/ dining |



First Floor

- | |
|------------------|
| 11/ terrace |
| 12/ tank |
| 13/ side passage |
| 14/ sub floor |

