



Greenhouse

text: **Tamsin O'Neill** photography: **Jeremy Wright**

This Victorian terrace renovation by Sashimi Architects cleverly maximises available space around the central idea of a slim full-height internal courtyard.

The Kelvinator door was sealed and expertly fitted into the hatch leading to the roof terrace. **opposite page** Deep colours and fleshy plants create drama and depth in the vertical courtyard.



top left The rear courtyard lost no space to the renovation, which was resolved within the original footprint. **right** A study nook is tucked into the extra bit of hallway created through the installation of the vertical courtyard. **bottom left** Main study next to the yet to be planted courtyard. **right** Sculptural, hardy plants proved to be the most successful in the enclosed garden.





The space has been transformed by double-glazed windows and detailed steel.

Terraces, such as this, line the streets of inner Melbourne and often do an exceptional job of hiding their insides. Strict planning regulations mean that architects must cleverly renovate while not revealing even a hint of change from the exterior. This particular Victorian in Melbourne's inner north suffered not just from a dated mish-mash of alterations but simply from being "the man in the middle", sandwiched on an east-west block.

Enter Sasha Hadjimouratis of Sashimi Architects. The brief was simple. She explains: "Open up the space, create something more fluid, with a lot more light and somewhere to work." The clients, a young family, were keen to introduce some greenery, so "we discussed the concept of an internal courtyard early on and this essentially formed the basis for the renovation, creating a double-storeyed interconnecting spine through the centre of the house," says Sasha.

The remaining area around the courtyard then required some clever design in order to squeeze in a bedroom, two study spaces and two bathrooms, forcing some creative solutions - a bathroom tucked under the stairs and a study nook on the upstairs landing. The courtyard became the lungs of the building. Big open sliders at the bottom and windows on the upper level vent hot air and accommodate cross ventilation.

Sasha had to hunt for the right person to do the plantscaping. "I was fortunate to come across Paul Hyland from Glasshaus Nursery. He was given the brief to create something sculptural that would work across both levels," explains Sasha. The result is a mixture of

hanging, wall and ground plants through which light filters into the rooms below.

The front and back rooms were left relatively untouched, there was no insulation in the building so it had to be entirely fitted out, existing windows were retrofitted and all new windows and doors double glazed. Recycled timber floorboards replaced worn out ones.

The rear exterior wall had a small opening and so the most dramatic change in this space was the installation of an entire wall of steel windows. With a steel-monger father Sasha was determined that these windows and those surrounding the courtyard be of high quality. "A lot of steel windows are fabricated in China and I don't believe in that; I also grew up with a certain expectation of craftsmanship," explains Sasha. Moreland Glass in Coburg were commissioned and the result speaks for itself, superb detailing and double-glazing throughout.

A hatch, clad in recycled timber, and a Kelvinator fridge door (at the owners' special request) leads to the newly created roof terrace which, apart from troughs of plants along the edges, has been kept relatively bare, serving to highlight the magnificent view of the Dandenongs on one side and the city on the other. As the plants have continued to grow they are seen popping up over the parapet from street level - the notions of a green roof.

Inner city living requires a level of acceptance that space is of a premium and that if a home is cleverly designed it will satisfy and delight. This house does both and more.

Specs

Architect/Builder
Sashimi
sashimistudio.com

Builder
LocBuild
locbuild.com.au

Landscaping
Glasshaus
glasshaus.com.au

Passive energy design
The clients' initial design brief was for a lighter, brighter and more open house in which to live and work. The original terrace house was poorly insulated, quite dark and inherently narrow. The internal core of the existing house was essentially removed and replanned to meet this brief. The design was generated around the central light court – the "heart of the house". The house has benefited from the addition of abundant plant life – a primary driver for the design. The plant-filled light court and roof deck use hardy, resilient and Australian native species. The light court offers many good ESD features to both ground and first floors: natural light and ventilation, cross ventilation, night purging of heat and it also offers a sculptural bright internal space. The internal garden plantings provide a better quality of air into the house. Irrigation to the light court is directed from the roof.

Materials
Most of the external and internal linings were removed from the existing house and replaced with recycled, sustainable, plantation and locally sourced products where available. External weatherboards were replaced with sustainably grown plantation Pacific teak from Woodform Architectural. The rear garden was repaved with Melbourne bluestone. All paints and timber finishes are low VOC. The recycled messmate used for the vanity in the main bathroom was sourced from Shiver Me Timbers and finished with Kunos natural oil. The roof hatch cladding is recycled stringybark boards.

Flooring
The hardwood timber floors are recycled Jarrah boards in assorted sizes from Historical Timber Floors. Bluestone was used as a re-occurring material in the hexagonal tiles for the main bathroom.

Insulation
The ceiling is insulated with R2.0 Autex Green Stuff batts, R2.2 double-sided continuous reflective foil to exposed sub-floor, Autex Quiet Stuf to internal walls. Autex R2.0 Green Stuf batts to external walls and Autex R3.5 Green Stuf batts between rafters and floor joists.

Glazing
New windows on the ground floor are double glazed (6/12/6) and steel framed. The window manufacturer Moreland Glass, was selected as they locally fabricated the steel frames in Coburg. Existing openings such as the east facade were increased, double-glazed and blinds were installed. Existing timber sliding sash windows were restored and weather-sealed effectively.

Heating and cooling
One split system air-conditioner is used on each floor. The existing double-brick walls on the north and south, along with the existing western verandah keep the house relatively cool in the summer. The light court at the core of the house releases retained hot air from inside. In the winter plenty of morning sun is received on both floors. A zoned hydronic heating system was designed by Crystal Clear Engineering, Port Melbourne, which uses an Immer Gas condensing combination boiler, which supplies both hot water and heating. The high efficiency system is 95% energy efficient.

Hot water system
The gas hot water is integrated with the hydronic "combi boiler" system used for the heating.

Lighting
The house uses low energy LED lighting designed and supplied by Light Project.

