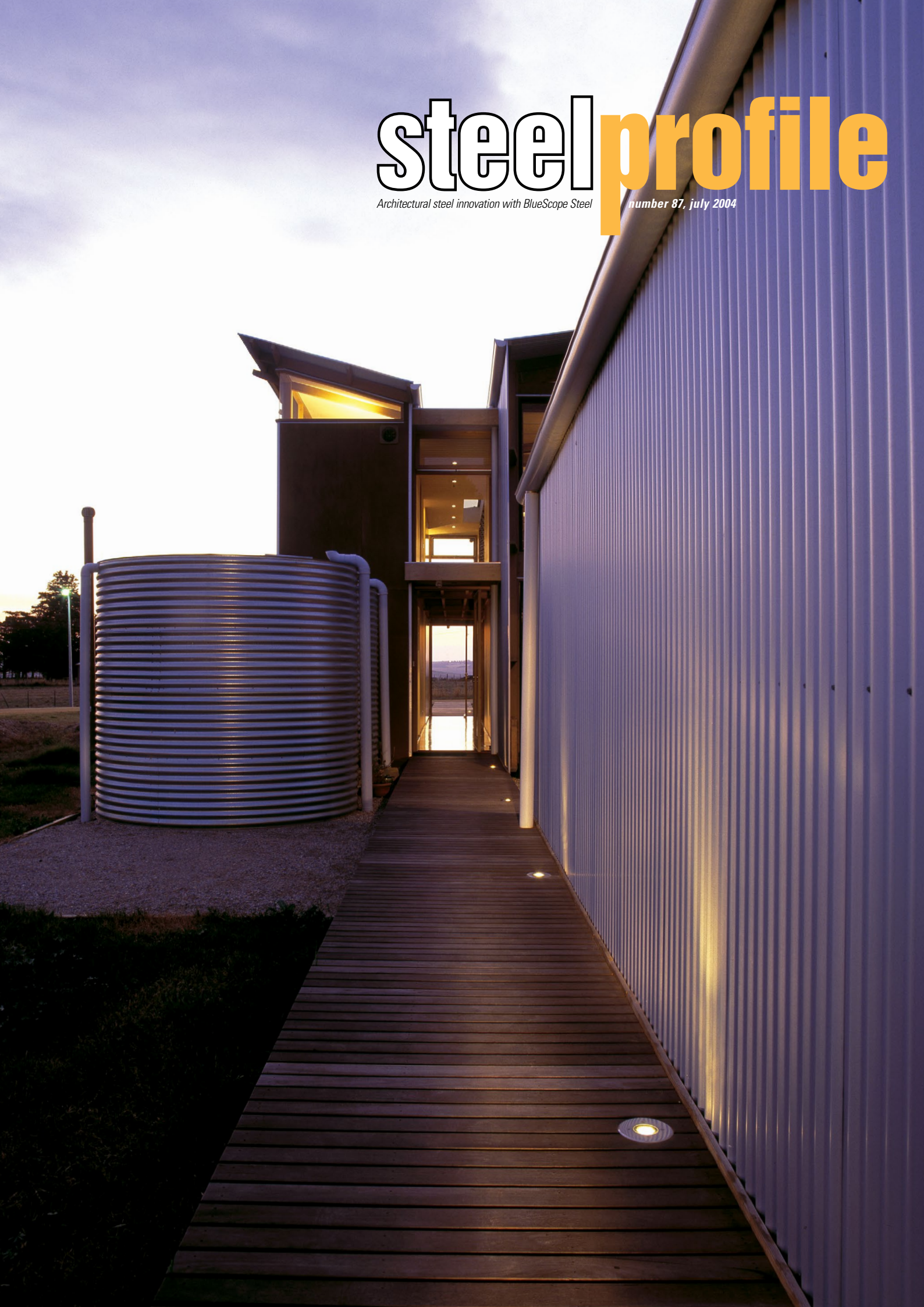


# steelprofile

*Architectural steel innovation with BlueScope Steel*

***number 87, july 2004***

# steelprofile

*number 87, july 2004* *published by BlueScope Steel*


## 002

**Picture Perfect**

The challenge for Bud Brannigan was to blend architecture, setting and art. The site of the Tweed River Art Gallery on the New South Wales north coast has views to distract, but this gallery combines a perimeter envelope where vistas hold sway with a box-like interior where art is pre-eminent.



## 010

**Calling Card**

For Geelong based architect Peter Woolard the project coincided with a 'Glenn Murcutt International Master Class' studying under Murcutt, Richard Le Plastrier and Peter Stutchbury. "There's a subtle influence from all three architects in this house," Woolard says. It works.



## 018

**Modest Camouflage**

The site is high in a coastal dunescape with views across a golfing mecca. The brief included the challenge to make the most of the site's prominence without making the home a landmark, so the team from Jackson Clements Burrows resorted to camouflage.



## 024

**The House Whisperer**

The house emerged from James Grose' notion about the form and function of the veranda, a transitional zone in traditional Australian houses, neither inside nor outside; a flexible, informal, multi-purpose space. In this Byron Bay hinterland house the veranda is the core.


**NUMBER 87, JULY, 2004. PRODUCTION:** Sean Moylan **PHOTOGRAPHY:** Peter Hyatt and Paul Bradshaw.
**ART DIRECTOR:** Natasha Krncevic **CORRESPONDENCE:** Steel Profile, PO Box 961, Crows Nest, NSW 1585 AUSTRALIA.
Email steel.profile@theprojectgroup.com.au 

(cover photograph) The steel water tank as an aesthetic element? That is just one of many deft touches which come together in this Peter Woolard cottage at Ceres, near Geelong in Victoria.

(this page) James Grose's advocacy of design utility is demonstrated by this Byron Bay hinterland home where a skeletal form maximises span and minimises columns and cladding materials.

# 002

**Project** Tweed River Art Gallery
**Architect** Bud Brannigan
**Builder** Multispan Australia

## PICTURE PERFECT

**Winner of the Robin Boyd award for his Brisbane house in 1994, Bud Brannigan is also winning a reputation for his regional art galleries and museums. His latest, an architectural artwork occupies a mighty position above the Tweed River on the New South Wales north coast. It requires something special to make the most of this one off opportunity. Brannigan frames the view with impressive results.**

Provincial art galleries usually suffer by comparison with their big city cousins. Hard to compete with huge budgets and bequests. Murwillumbah was given a huge kick-start when former deputy PM Doug Anthony donated a small, but strategic, parcel of land for the express purpose of siting a new regional art gallery. This generosity helped lead to creation of a fund-raising program and the eventual appointment of Bud Brannigan as project architect.

The gallery that has resulted is a knockout. Elegant, yet restrained, it makes a convincing environmental statement. In this setting its steel jacketed design appears utterly at home, imparting a fine balance of tradition and modernity. Part anchor, part projection, the gallery is every bit the big city competitor with its dramatic setting and delivery.

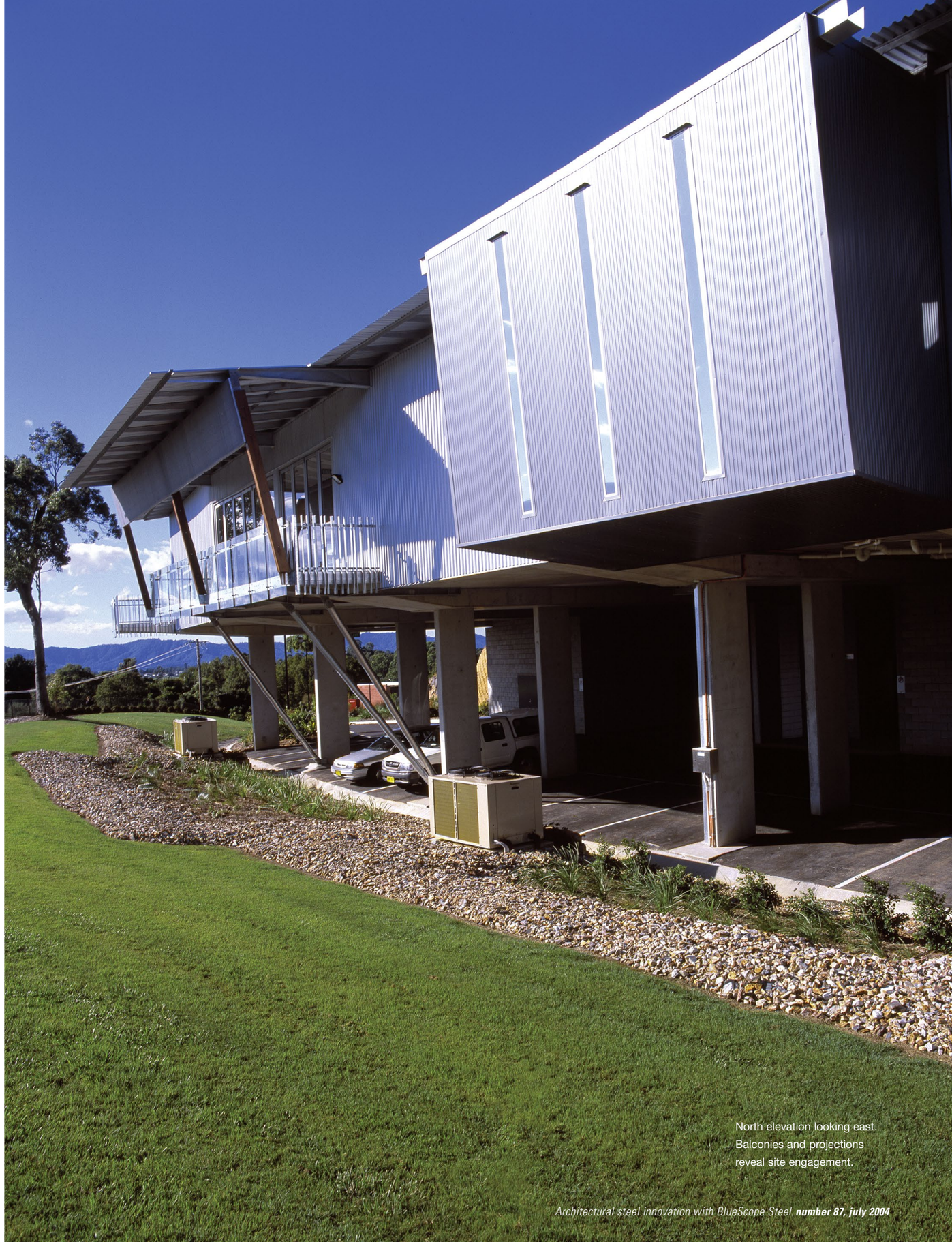
Built across two levels, the steel jacketed design provides a vivid identity from its vantage point. Vistas east, north and west inevitably invite the eye out as much as in. In normal circumstances not a good policy when it comes to art and the potential for distracted visitor gaze.

Comprising an upper level of 1000 sq.m. the building is divided into three exhibition spaces of varying sizes and purpose, together with art and other stores; administration areas, cafe/restaurant, workshop and large foyer. The lower level is dedicated to car parking and additional storage areas.

A complex matrix informed the result that had to be synthesised by the architect. The building floorplan directly reflects the narrow and curving nature of the site, while the stepped void reflects the falling nature of the slope of the hill setting. *Contributing editor Peter Hyatt interviewed Bud Brannigan about the challenge to blend architecture, setting and art:*

***It has been said that the best feature of most art galleries are the windows. Should the view out be better than the view in?***

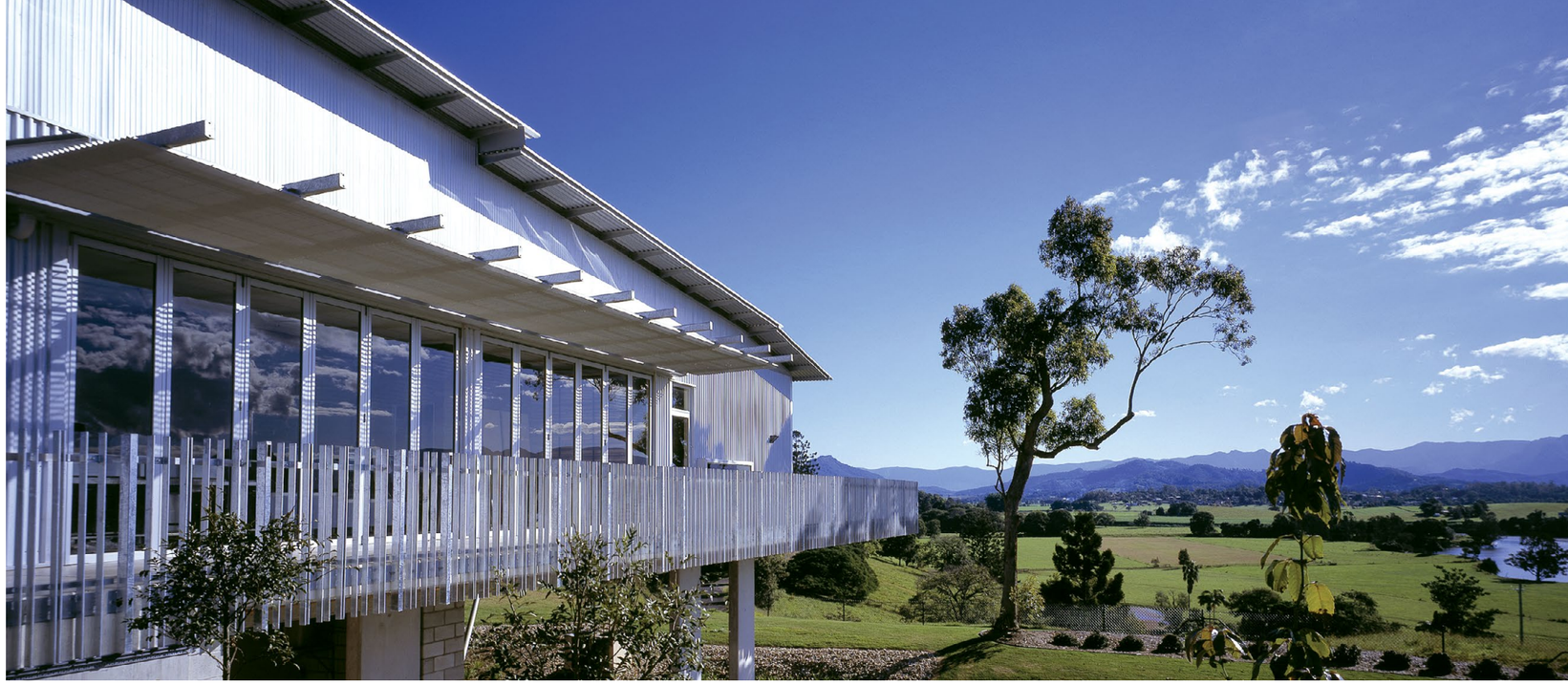
Well you do have that conflict between what a gallery is supposed to do and the location of the building, but in this location the environment is just about everything and you simply cannot turn your back on it.



North elevation looking east. Balconies and projections reveal site engagement.

(opposite) Architecture as light object in the landscape is most evident from south-east. Balconies provide transition between gallery spaces and a platform for views across the Tweed River valley.

(below) Approach to main entry from south-east.



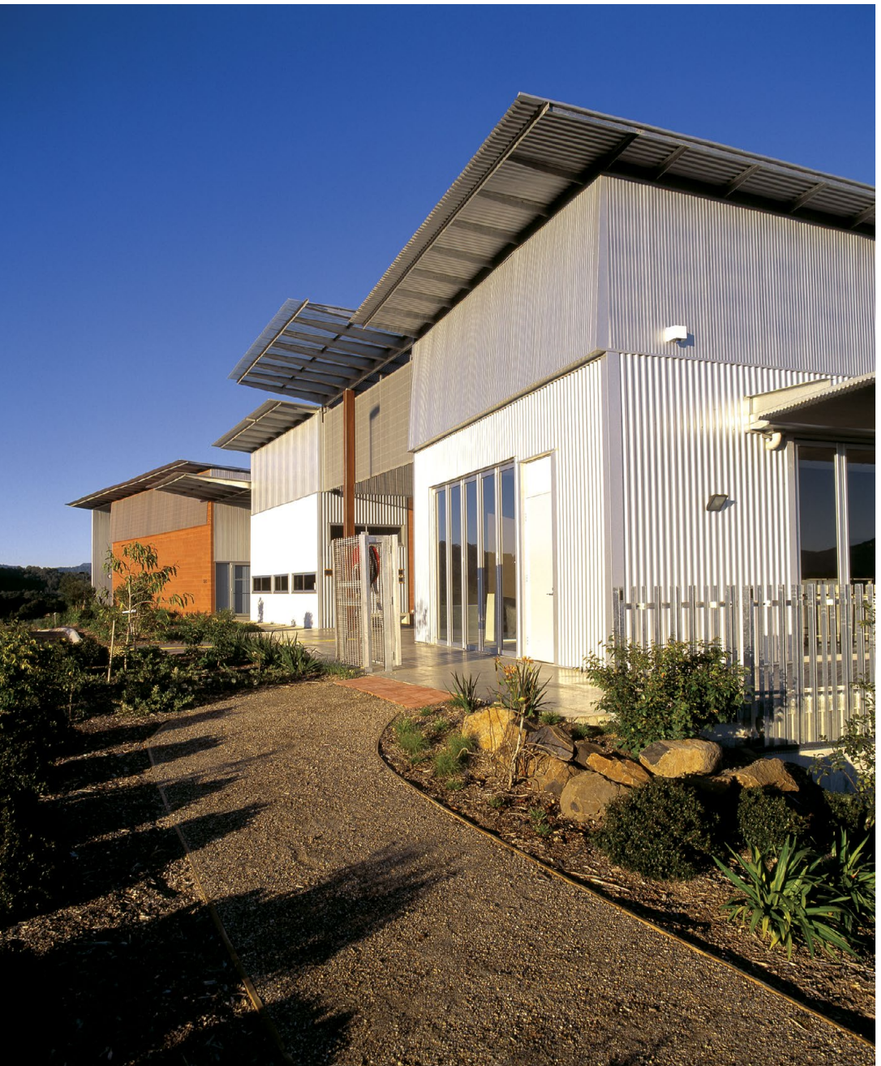
***But aren't the knockout views a potential conflict with the art, given that most galleries are almost hermetically sealed?***

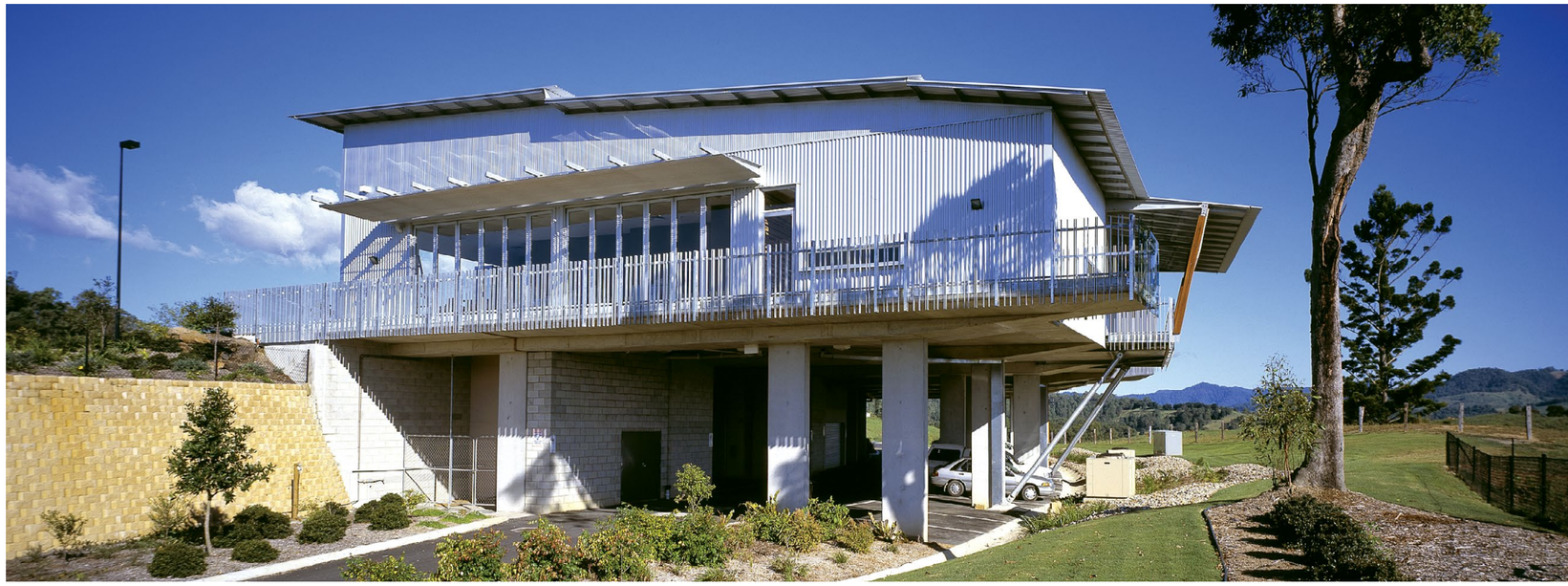
That was one of the real conflicts when designing the building. The fact that it was a museum and that it had that particular location and address in many ways predetermined that it was a real Dr. Jekyll and Mr. Hyde.

On the one hand the exhibition spaces are well protected to minimise natural light but there are also windows and openings here to look through and move through and experience the surrounding context as much as possible.

***It's really trying to be multi-faceted?***

It certainly has two personalities. It has the core 'box' exhibition spaces surrounded by what is essentially a 'shroud'. The box is the art gallery and the perimeter envelope helps keep visitors connected to the external environment. The two live together reasonably well. There isn't too much compromise in this building. It's a rural setting and that has a lot to do with the typology of the building. On the one hand it's a museum box with its own requirements and on the other it's a rural building, so it has that rural iconography to deal with.





***Many galleries are straining to produce an emblematic form and the result is often a pastiche. Were you conscious of this effect of the signature flourish?***

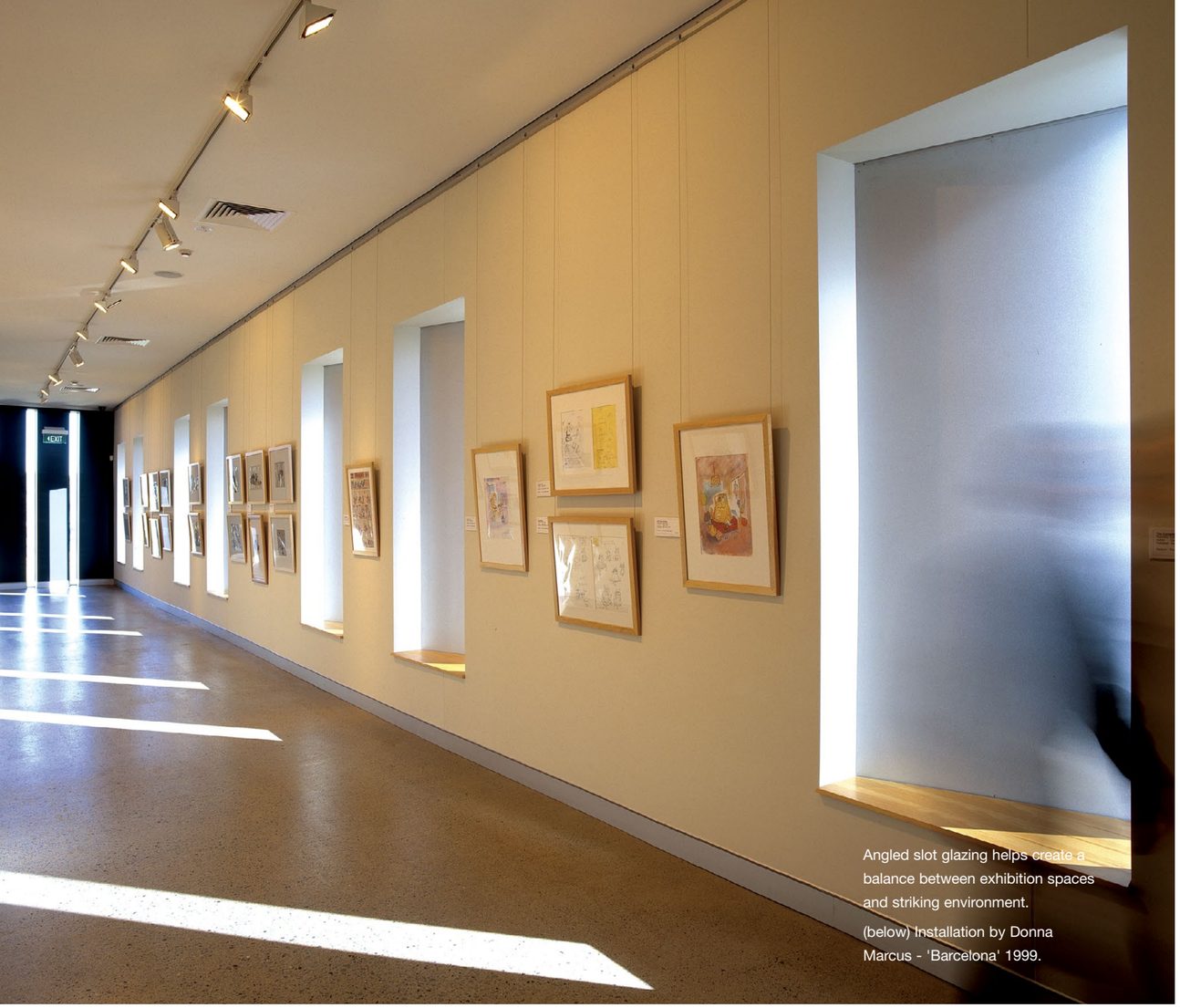
Sure. I tried to steer away from it. Apart from the issues I just mentioned, this was also a very compressed site. The building had to adjust to both the site and the functional needs of the spaces within. I really didn't know exactly how the result would appear. I didn't approach the project with a pre-conceived image. A lot of visitors have driven past the building and asked where the gallery is, so it's not sitting out there as a typical art museum.

***Did you have a strong sense that the gallery design should also be a work of art?***

The gallery director really wanted the building to be synonymous with the quality of exhibitions that would be displayed there. He had goals and objectives and he wanted the architecture to be superb.

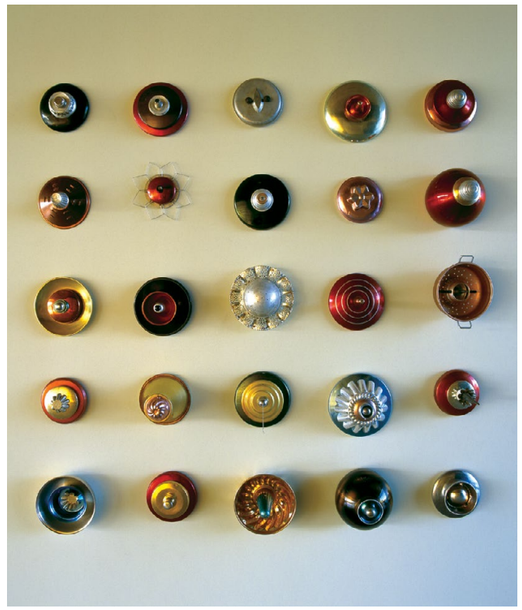
***What level of research was involved?***

I had worked on a couple of museum art galleries in far north Queensland so I had some knowledge of client expectations - not so much how art galleries work but how they wanted them to work. One experience I brought from those projects was a level of appreciation of the integrity of a local community. You don't go in thinking you have all the answers but go in and listen to what they have to say. This new building replaced an existing gallery and of course I researched the Art Gallery of NSW and the National Gallery



Angled slot glazing helps create a balance between exhibition spaces and striking environment.

(below) Installation by Donna Marcus - 'Barcelona' 1999.



of Australia to ensure that we met certain standards with regard to the lending of exhibitions to small regional galleries. The artwork usually has to be delivered by fairly large vehicles, so artwork access, visitor circulation zones, security, fire safety and gallery staff needs are all ingredients in the necessary checks and balances.

***What about reading the building? You have used an elaborate range of steel profiles and patterns.***

The roofing has its own profile and there are wall profiles that delineate particular parts of the composition. Externally there is a folded flashing about 4m above ground level which is the ceiling height of the gallery spaces, so that flashing delineates a consistent height across and throughout the building. Above and below the flashing are two quite different profiles. The fins that cover the windows to the corridor gallery spaces consist of flat ZINCALUME® steel sheet specifically for the purpose of delineating those fins.

The sum total of the building is the reading of the different elements using a variety of profiles and different colours. The cladding in COLORBOND® Metallic steel was really a flirtation with the properties of that product - it does change its sheen depending on the light of day. It's lustrous without blinding and the response from visitors has been terrific.

***What were the main qualities which suggested steel cladding?***

Flexibility to achieve a distinctive expression that isn't different for the sake of difference or capricious in any way. It also offers a fineness of edge and finish that fitted the idea of housing art. The colours chosen lend an appropriate level of sophistication without attempting to over-achieve.

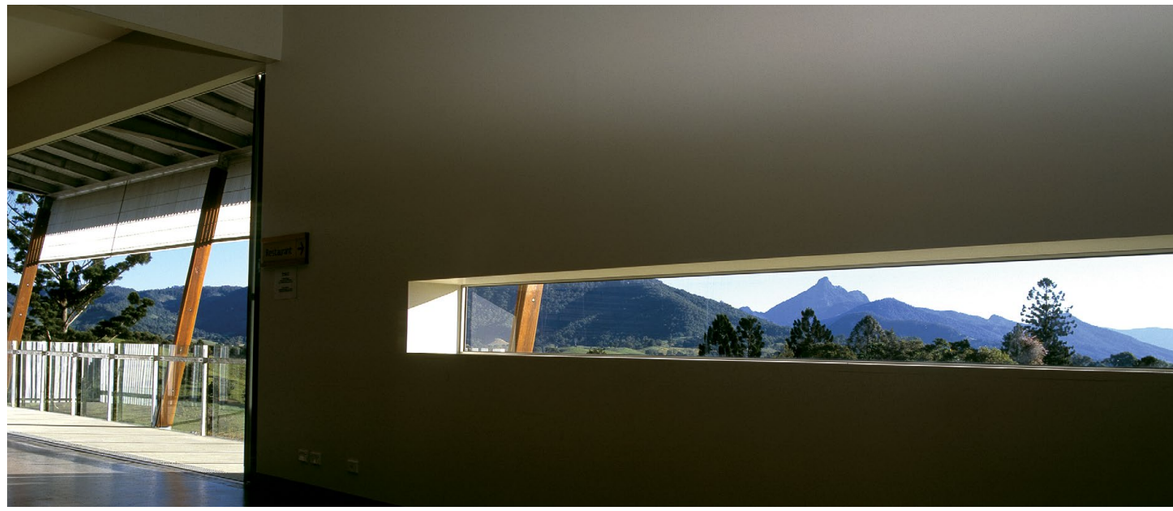
***Suddenly a building skin has taken on a new significance. Especially since Gehry's Guggenheim.***

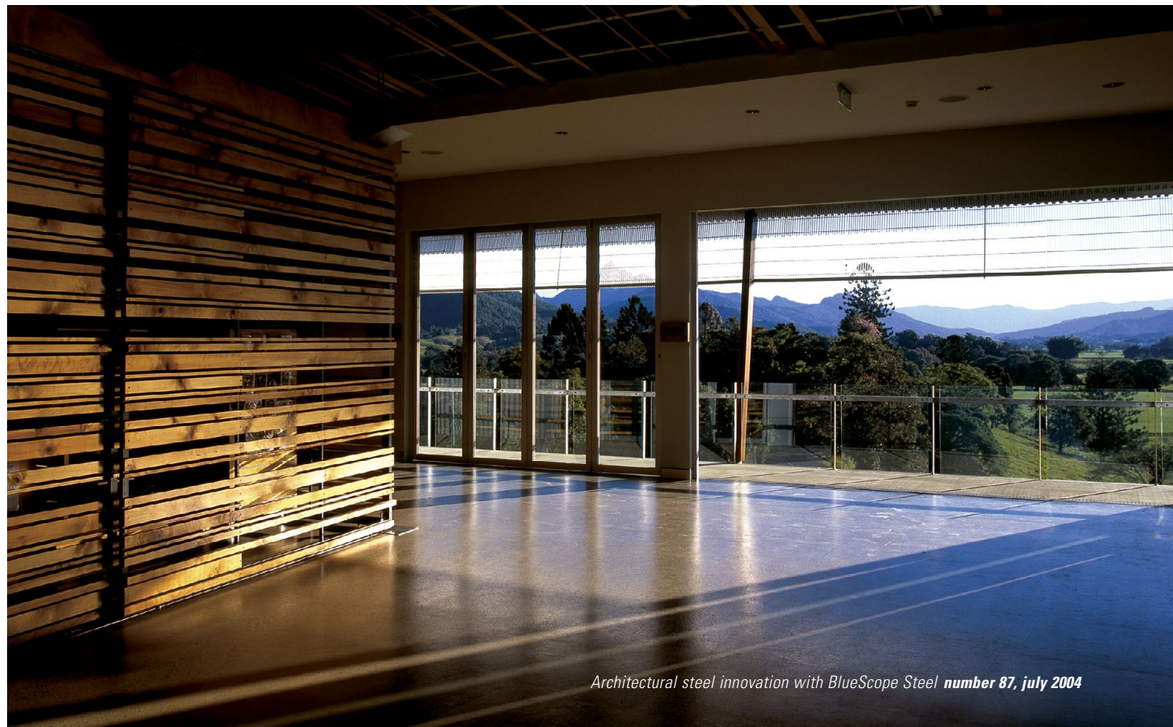
Gehry excitedly describes how he used 0.5mm thick titanium, yet we've been using that thickness on sheet steel in Australia for 150 years. It's no big deal. It's one of steel's great qualities – it can be rolled to such an incredible thinness that it provides this amazing skin for a building.

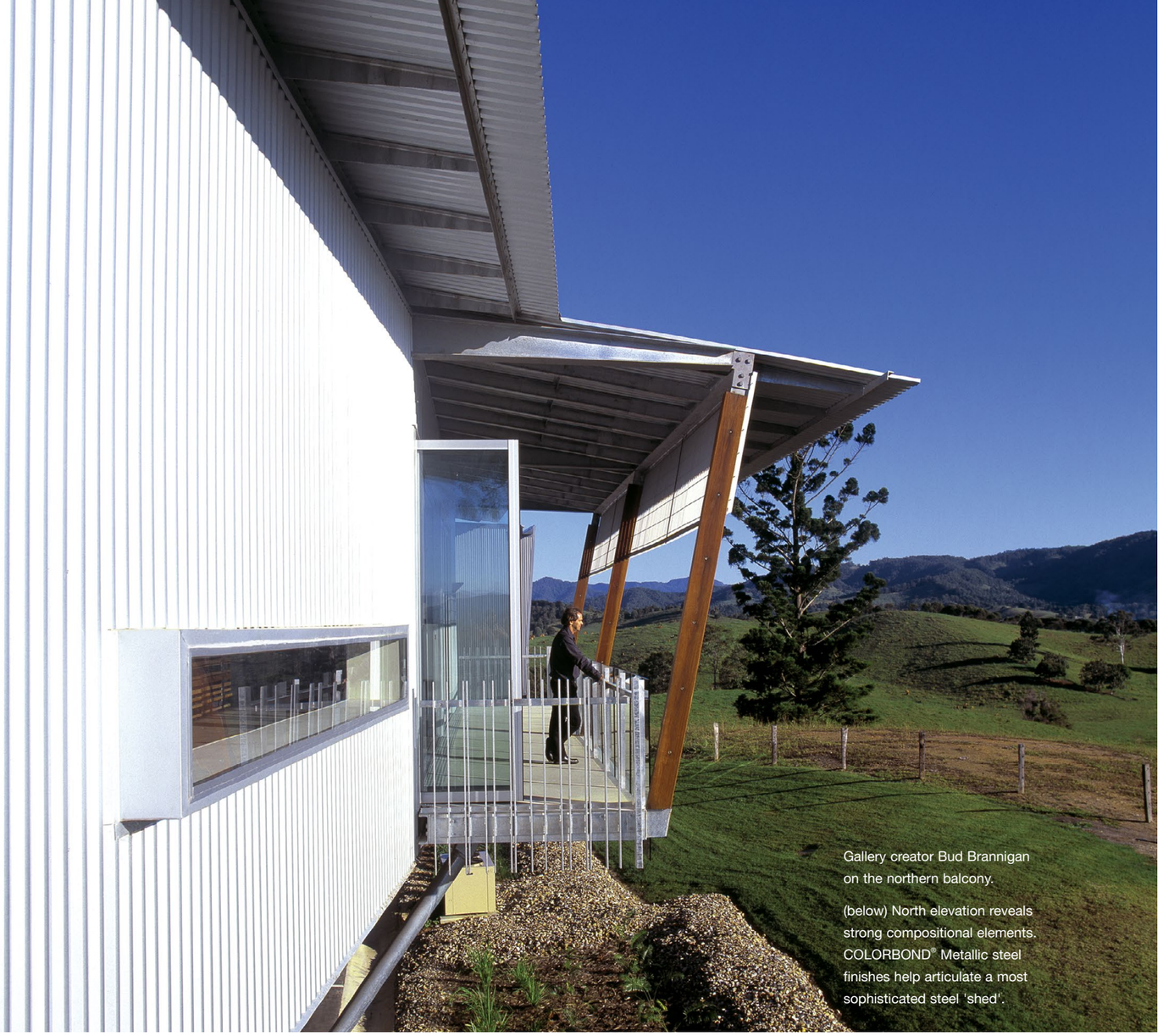
***How do you ensure that it is applied or fixed in the right way?***

I'm not averse to discussing alternative ways of doing things such as when it comes to critical points, turning corners, meeting other materials and detailing around openings. Most roof plumbers and sheet metal workers are skilled and bring

(below) Apertures and openings are artfully composed to achieve a balance between the artificial and natural. Timber taken from the site was milled to create the gift store screen and a wide variety of other gallery needs. Slot windows and retractable balcony doors look to the north.







Gallery creator Bud Brannigan on the northern balcony.

(below) North elevation reveals strong compositional elements. COLORBOND® Metallic steel finishes help articulate a most sophisticated steel 'shed'.

experience to a project so I'm open to that if it works. There are critical issues of water protection and weather-proofing to resolve and there have been examples where outside experience has greatly assisted my projects.

***Do you now detect a better level of materials handling and finishing? Are builders better at it now or are we stuck in the past?***

Communication between consultants can now be very refined and precise. Engineers, architects and fabricators can exchange information with more clarity. Steel is a demanding product, but I'm finding that a lot of applicators of sheet materials have a methodology that allows the product to perform. With sheet steel and folded profiles these are the finished and highly visible product. The fixings are exposed and they have to be aligned and have a sense of rhythm. When sheet steel changes direction there needs to be an awareness of corner details, flashing issues and how different materials connect and meet.

***Has a consistent thread emerged that you regard as essential to good galleries, irrespective of size?***

There are ingredients for the success of such spaces. One of the key issues is the movement of art work from the moment of delivery to exhibition. The separation of public and private spaces also matters. There is a hierarchy to these. If you were to look at a cross-section of this building, there is a clear separation of public and gallery staff. You really need to isolate, or tease out, those lines of division. It is very similar to a theatrical performance. Patrons don't need to see what is taking place behind the curtains or in the wings.

***What do you see as the environmental attitude of this building?***

I think a number of elements are noteworthy. Firstly there was a house on the site which was moved and re-used elsewhere so I thought that was a positive move that the clients readily agreed to. Secondly, two mature hoop pines on site were felled and milled to provide all of the timber for screens, trim and even picture frames. Roof water is held on site as much as possible and excavated material from the site was deposited next door, landscaped and seeded. Orientation is critical to capture prevailing breezes in summer and maximum sunlight in winter to warm the interiors. This allows airconditioning to be turned off in the foyer space in summer while being maintained in the galleries.

***Any pleasant surprises, disappointments or lessons from following the path that you took?***

It's a fairly complex building. It's linear with a cranked plan form. It wasn't a simple building to put together. The plan form did cause some issues in terms of pre-fabricating and changing direction.

***The quest for a vernacular language and expression can be difficult. On the one hand you strive for difference and surprise and yet you want people to feel comfortable. There is a paradox between creating something that is edgy and that people notice, without making them reject and turn on a building.***

I've never really discarded what people think about public buildings. I don't have a lot of regard for conforming to planning rules but by the same token I like the challenge of presenting new forms and gauging what these new forms do to people's perception of buildings. Here, I think, it is a case of a building that explores the site possibilities to the benefit of client, artists and visitors. Guiding principles for the project were exploring site opportunities and constraints, articulating an appropriate response to those conditions, combined with the use of contemporary materials to help establish form.

***I guess the crunch assessment is: Is it enjoyable for the client, visitor and you?***

There is no set agenda for the use of the gallery. There is no set route or circulation path. We deliberately provide a variety of choices. Visitors can move directly outside onto any of the numerous balconies and pick up on some of those key moments in the landscape, read the art alone or combine the two as inside/outside images.

***With views like these there's plenty of competition for the art.***

Sure. Where does the art exist? You see those external wall apertures as framed views, but then there is the art on the internal walls and that is also very dynamic. As you move through the building the views in and out change continually. The angles of the vertical slot windows provide views on the way out that are not so apparent on the way in.

***Is there a particular cultural attitude prevalent in the result?***

That's an interesting question. The project was approached from a viewpoint that it was part of a rural community and culture. Local people are central to the whole project. Local artists donated work for sale to help fund-raise and there was a big community push behind the project that surprised me. The land was donated and the official opening was a big event, so there was generosity at many different levels. Hopefully some of this hard work and goodwill shows in the result.

**Project:**
Tweed River Art Gallery

**Architect:**
Bud Brannigan
Tel: (07) 3368 3105

**Project Team:**
Bud Brannigan, Ben Gepp, Marco Giaroli, Stephen Chandler and Katerina Dracopolous

**Structural Engineers:**
SMP – Mani Salmon

**Steel fabricators:**
Multispan Australia

**Builder:**
Multispan Australia

**Principal Cladding:**
Roof and Walls in ZINCALUME® steel rollformed in Lysaght SPANDEK HI-TEN® profile. Walls in ZINCALUME® steel in flat sheet and COLORBOND® METALLIC steel rollformed in LYSAGHT PANELRIB® profile in the colour Facade™.

**Cost:**
$2.5 million

**Photography:**
Peter Hyatt

# 010

**Project** Virgo Residnence, Ceres Victoria
**Architect** Peter Woolard, Studio 101 Architects
**Builder** CE & RA Tucker

## CALLING CARD

**Architect Peter Woolard's own house in Geelong is like a calling card for those seeking a contemporary home. In a city known for heritage streetscapes, Woolard's house is one of few contemporary designs in the area.**

"These particular clients came knocking on my door," he says. "They liked the style of my house and were keen to build a contemporary home on a site they purchased at Ceres, just outside Geelong," says Woolard.

His clients were leaving behind an inner-city cottage for Ceres, a small rural township, five minutes drive from the outskirts of Geelong. While relatively compact for a rural property, the 1,650 square metre site at Ceres is generous considering its proximity to the city. A green belt between the outer suburbs of Geelong and Ceres accentuates the rural feel of the area.

Woolard could see that his clients were reasonably design-savvy. Ian works in the graphics department with the local newspaper, and the couple have an impressive collection of art deco furniture and glassware from the 20th century as well as collectables from Asia. Woolard noticed their appreciation of a Japanese aesthetic as well as their interest in sustainability issues. Just as well, as there was no town water or sewerage on the site - not even a septic tank.

Strategically placed fixed and adjustable glazing gives maximum climate control.

The dining area occupies the central position in the house which features a void of five to six metres (the roof is angled).

"Ian and Ann wanted a design that was environmentally friendly. But they didn't want an obviously 'green' house. They wanted a piece of architecture with the environmental considerations incorporated discreetly," says Woolard.

Having a limited budget and no water or sewerage facilities forced Woolard to think about energy efficient solutions.

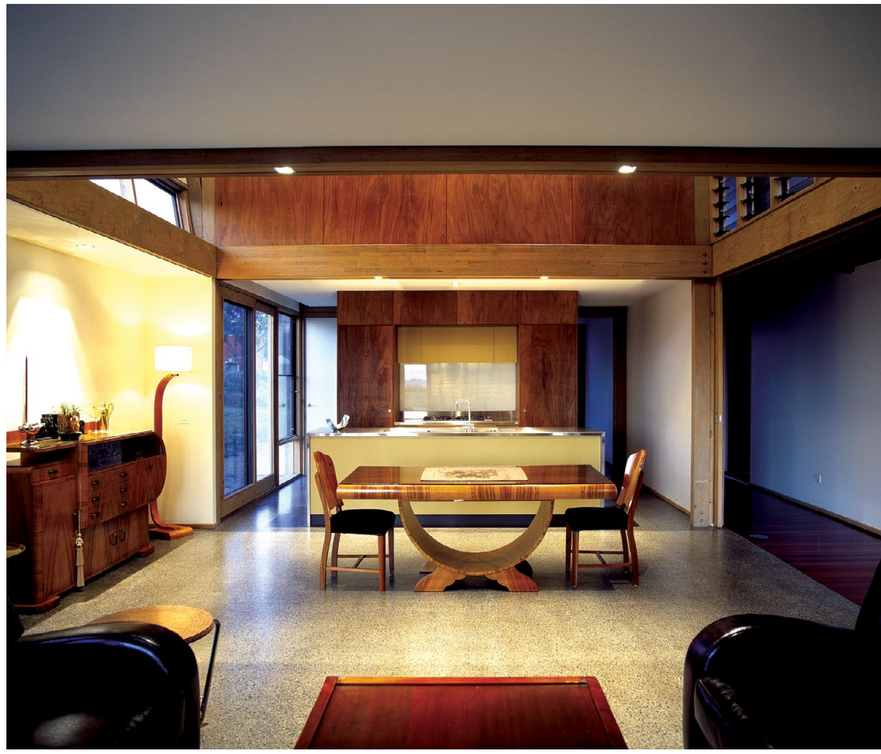
An important element of the design is the butterfly roof, made of ZINCALUME® steel in LYSAGHT's CUSTOM ORB® profile. The ZINCALUME® steel wraps around the house, which is designed in two pavilions.

"The lower level roof clad in ZINCALUME® steel in LYSAGHT's KLIP-LOK® profile acts as a large gutter that runs down the centre of house," says Woolard. "It acts as a collection point for the rainwater. The location also allows easy distribution into the water tanks - made of AQUAPLATE® steel in LYSAGHT's CUSTOM ORB® profile."

As an alternative to the septic tank, a vermiculture wastewater treatment system was incorporated.

"We treat the waste via the worm farm. It allows the grey water to be pumped and circulated for irrigation," Woolard adds.

Sustainability principles started with the initial planning of the house. The northern elevation features a glass wall to attract maximum winter sunlight but will be protected by a sun shading system in the summer.



The fully insulated roof made from ZINCALUME® steel in CUSTOM ORB® profile also wraps around the walls of the house. On the northern elevation the ZINCALUME® steel creates a protective overhang and extends from the roof to ground level, to create an entry wall between the two pavilions.

Steel, glass, sandstone and plywood were applied to an exposed timber structure, made from laminated veneer lumber (LVL), with all trusses hand fabricated and bolted together.

The western elevation has a sandstone feature wall that runs the height of both storeys. The stone, quarried locally, not only reflects period stone buildings nearby, but also mitigates the full western sun.

In contrast to the glazed northern facade, the southern elevation features an enclosing plywood wall, with minimal highlight slotted glass windows.

The textured plywood cladding is stained an earthy colour.

"The south westerly winds can rip through this area," says Woolard. "It was imperative to reduce the home's exposure on the southern aspect."

The sandstone used at the front of the house doubles as an internal chimney flue and provides an anchoring element.

"It's like a giant tent peg. All the other materials used for the house are relatively lightweight," says Woolard, who particularly appreciated the flexibility of using ZINCALUME® steel for the walls and roof. "It's available in the length that we required. It meant that the wrapping element was only joined at each fold between the walls and roof."

Woolard said ZINCALUME® steel had echoes of the regional 'farmer built' out buildings and shearing sheds dotted throughout the area - but was a far more contemporary solution.

(above) The kitchen is pared back. Food preparation is relegated to the butler's pantry behind the kitchen.

He also found the finish of ZINCALUME® steel attractive. "Because it's pre-finished, there's no painting and little maintenance. You may want to hose it down once in a while for cleaning," says Woolard, who also appreciated the material's crisp edges.

The architects didn't have to add any heavy timber fascias. Tapered timber purlins (expressed below the roof) provide a clean edge to the design. "ZINCALUME® steel's also an economical material to use," says Woolard, whose clients were on a reasonably tight budget.

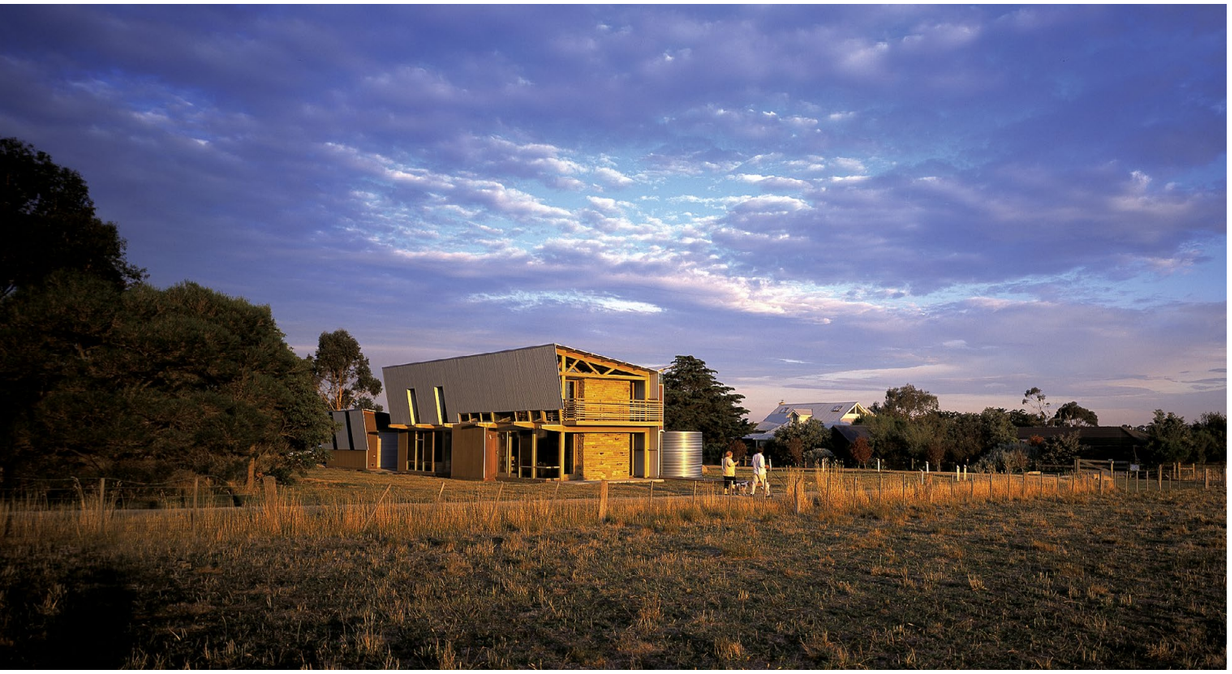
While there isn't a strict sense of arrival, (often the back dooris used as it's near the garage), the approach to the house is from a dirt track. And as the western aspect is the most enticing, over rolling hills and grazing land, Woolard orientated the front of the house towards the west. To the north, views were limited by the neighbouring homestead, from which this site is subdivided. Glass pivoting doors at both ends of the house create a transparency from the east through to the west, framing the rural outlook. The three water tanks on the property made from AQUAPLATE® steel provide an alternative to the usual garden features. "The tanks are a necessity for storing water. But they also act as a buffer to the strong south-westerly winds," says Woolard.

The house is essentially designed as two pavilions, divided by the bridge or spine of the house. The northern pavilion consists of the main living area on the ground floor, including the main lounge area, the dining, kitchen, scullery and a multi-purpose room. A second sitting area is placed on the first floor of the same pavilion, directly above the main lounge area, together with a study and a master bedroom. Both the mezzanine study and sitting area look over a double storey void above the dining area.

The secondary pavilion includes a bathroom and laundry on the ground floor. Upstairs, there's a walk-in wardrobe, an ensuite and enclosed stairwell. While the two pavilions are clearly defined by the ZINCALUME® steel profile on the roof, they are cleverly interwoven in the interior spaces. The Jarrah walkway that slices through the two pavilions is mirrored in the Jarrah timber-battened ceiling that divides the two levels within the home.

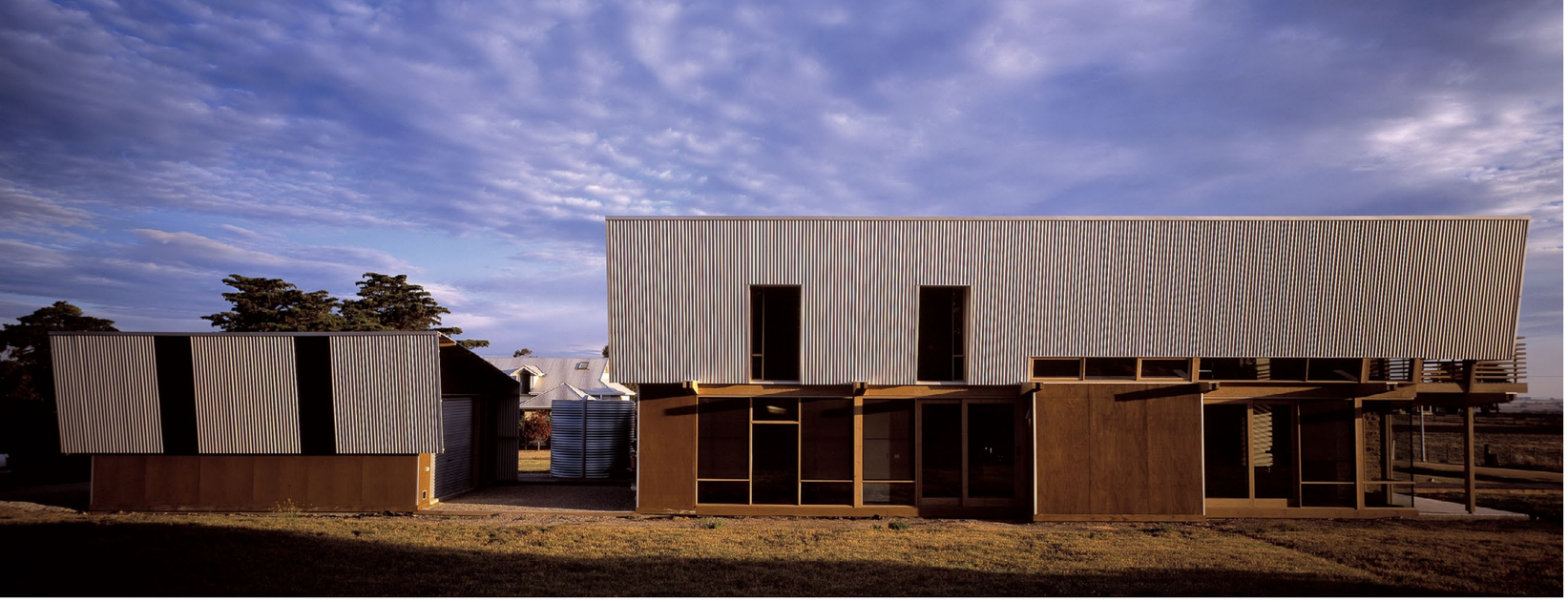
"This bridge is like a breezeway. Light and ventilation can filter down to the ground floor (through the slatted timber ceiling) and the doors at either end can be left open on warmer days. It's important to create natural ventilation," says Woolard, who designed highlight windows on the second floor to exhaust hot air as well as to increase privacy from the neighbouring properties. A floor to ceiling glass louvred wall above the dining area links the ground and first floor.

The lounge area, dining area and kitchen are located on the northern side of the house.



Woolard's striking house was inspired by the area's simple rural sheds.

A timber boardwalk cuts a swathe through the house, creating a division between the utility functions and the living areas in the house.



The walls of the upper storey made from ZINCALUME® steel fold into the roof to create a sculptural form.

The polished concrete floor that includes slab heating is finished in a black oxide to absorb the sun's heat. The concrete floor stores and radiates the heat which can be manipulated by a thermostat.

"The heat from the floors is always constant. It's about my clients finding their own level of comfort and being able to adjust the heat to suit them," says Woolard, who points out the large glass sliding doors separating the dining area from the breezeway. "The louvres are also there to create the exact amount of air in each room. It's important that the house breathes, irrespective of the season," he adds.

The dining area, at the centre of the house, features a void of five to six metres (the roof is angled to create protection from unwanted levels of northern sunlight). Plywood balustrades leading to the study and second living area on the first floor frame the dining room space. In contrast to the generous volume above the dining area, the ceiling heights in the main living area and kitchen are a standard 2.4 metres. "These ceiling heights make the dining area more exaggerated. They also define the spaces within the open plan arrangement," says Woolard.

The kitchen, made with stainless steel, laminate and plywood, was conceived as a service pod. While the stainless steel-topped island bench was designed as a free standing piece of furniture, the scullery is concealed by the plywood 'pod' that wraps around the kitchen and makes an appearance in the room behind the scullery, currently used as the couple's gymnasium.

"The kitchen is more of the presentation area," says Woolard. "But the scullery is where most of the food preparation is done. The scullery was also included in Ann and Ian's brief," says Woolard.

He says he enjoyed contrasting slick stainless steel with the rougher stained plywood used for the cupboards.

Upstairs, the second living area and study both overlook the dining area. And the main bedroom is framed by Japanese-style sliding doors. "The house is currently designed for two people, but allows for future flexibility. There wasn't a need to enclose all the spaces," says Woolard, who demonstrates how the bedroom and study can be opened up simply by sliding back the doors. However, should additional privacy be required, Woolard has provided the required structure to allow for additional screening. Above the balustrades in the study and second living area, for example, there is room to add timber batten screens.

Keen to attract northern light into the upstairs rooms, Woolard designed two windows as part of the wall clad in ZINCALUME® steel that overhangs this elevation. Recessed 500mm, in line with the slope of the roof, the hooded windows create a sculptural addition to the facade. Like the exposed timber structure individually bolted together, the ZINCALUME® steel roof cladding is fixed into place with visible screws. "Expressing materials, structure and fixings for what they are is a signature of the practice," says Woolard.

The garage, separated by a courtyard, also mimics the shape of the house. It combines an angled roof and walls clad in ZINCALUME® steel with plywood walls and also features translucent polycarbonate sheets to allow light to filter into the garage.

This house is a significant project for Studio 101 Architects. It was the project that helped set up and establish the practice. Designing the house at Ceres also coincided with Woolard being accepted into the 'Glenn Murcutt International Master Class' studying under architects Glenn Murcutt, Richard Le Plastrier and Peter Stutchbury. As Woolard says, "there's a subtle influence from all three architects in this house. They helped me to consolidate my design philosophy, to understand the relationship of site and the importance of following ecologically sustainable principles.

**Stephen Crafti**

**Project:**
Virgo Residence at Ceres, Victoria

**Architect:**
Peter Woolard, Studio 101
Tel: (03) 5221 9131

**Structural Consultant:**
Earth Tech Engineering

**Environmental Consultant:**
Third Ecology

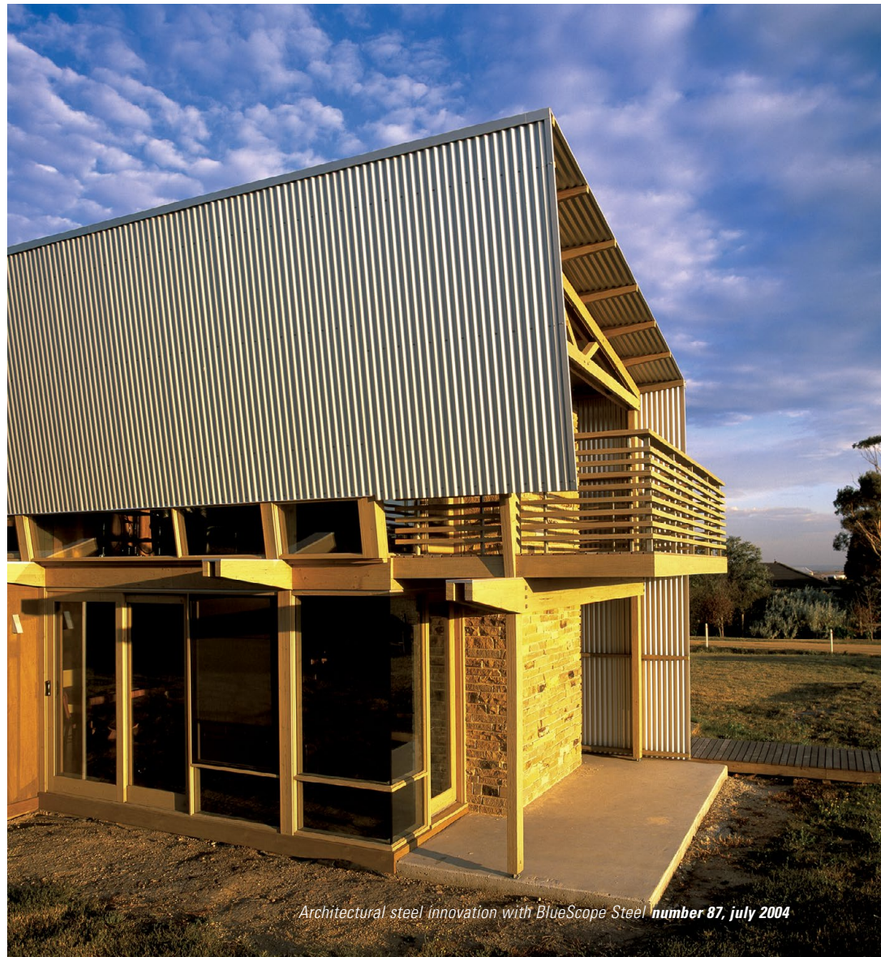
**Builder:**
CE & RA Tucker

**Roofer:**
Ian Hassall

**Principal Steel Cladding:**
ZINCALUME® steel in LYSAGHT CUSTOM ORB® profile used for external walls and roof. ZINCALUME® steel in LYSAGHT KLIP-LOK® profile for roofing. ZINCALUME® steel for box gutters, flashing and capping.

**Size:**
256 square metres + Garage

**Photography:**
Peter Hyatt



# 018

**Project** Moonah Links Residence
**Architect** Jackson Clements Burrows Pty Ltd Architects
**Builder** BD Projects

## MODEST CAMOUFLAGE

**The location is superb - even if you're not a golfer. Set among the golfing greens at Moonah Links on Victoria's Mornington Peninsula, a stylish house hugs the coastal dunescape in a development enjoying expansive views across the Australian Open Championship course.**

This home stands high on the crest of an active sand dune in an exposed coastal environment amid a world of sometimes howling wind and moving sand. A tough environment that requires extra attention be paid to maintaining areas of a home not washed by natural rainfall*. The highest site in a low density setting, it can be seen by many other houses in the 250-home Peppers Moonah Links residential development below, and from the lush rolling fairways of the golf course itself.

The main golf course, created by the internationally renowned designer Peter Thomson, of Thomson Wolveridge & Perret, was the venue for the 2003 Australian Golf Open, while not far away the Peppers Moonah Links Resort is home to the Australian Golf Academy and the Australian Golf Union Hall of Fame.

The resort, with 60 deluxe accommodation rooms, two 18-hole public championship golf courses, clubhouse and conference facilities, is a magnet for golf enthusiasts or visitors looking for a stylish base from which to explore the Peninsula.

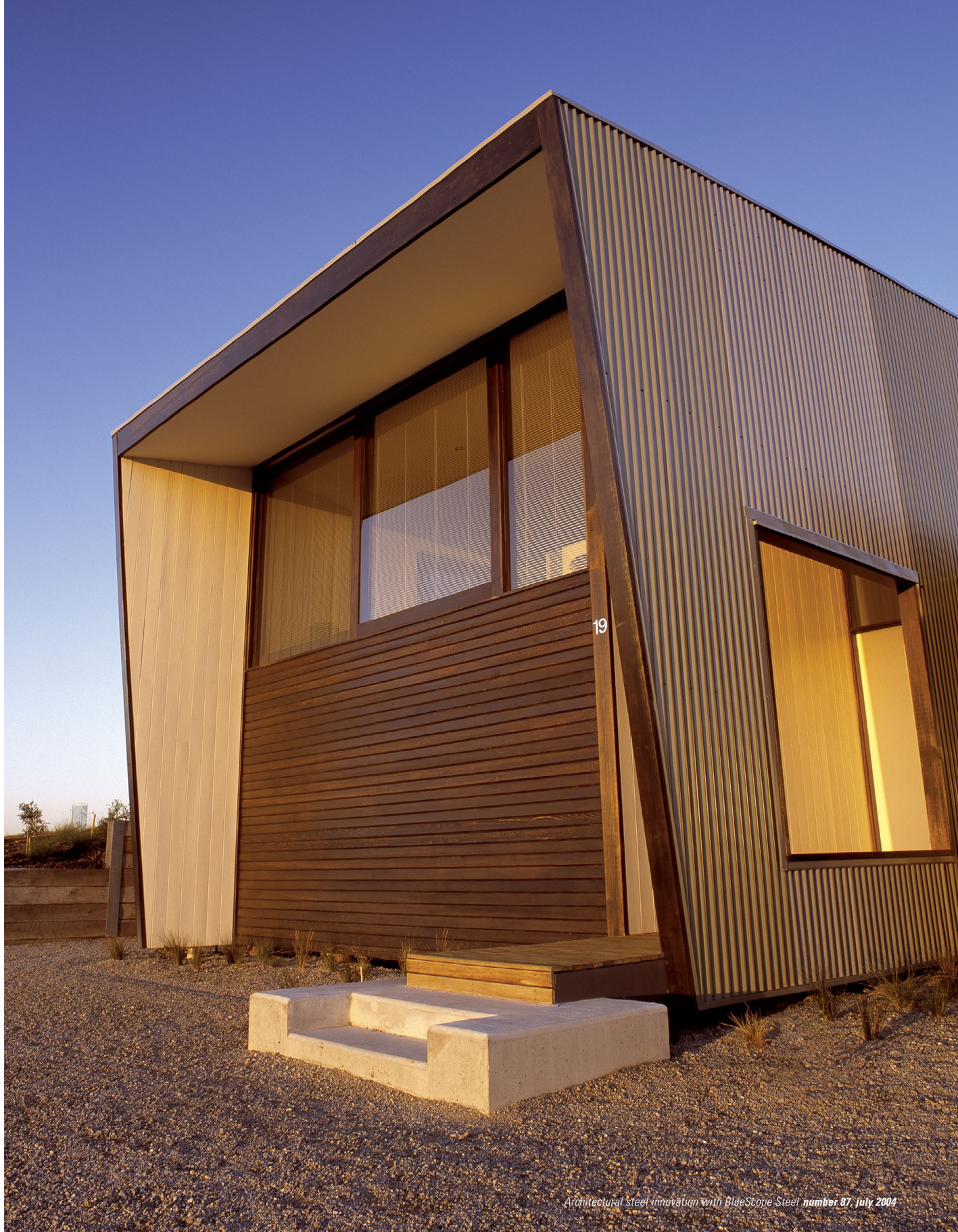
But back to the house, standing atop the crest of the sand dune.

Architect Jon Clements says that Jackson Clements Burrows designed the four bedroom split-level residence to be visually "camouflaged".

"It was one of the first homes to be built at Moonah Links," he says. "The brief from the clients clearly emphasised 'environmental' considerations. That included their desire to make the most of the site's prominence without making the home a landmark.

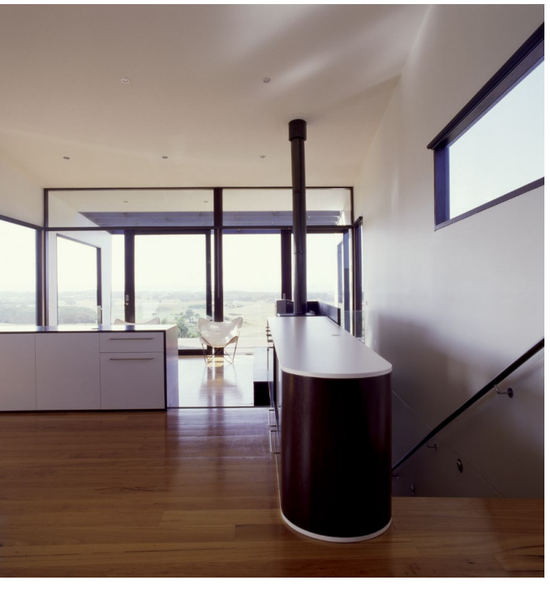
"The first device used to achieve this camouflage was to create a cost-effective form which - in silhouette - would mimic the topography of the surrounding hills," Clements says.

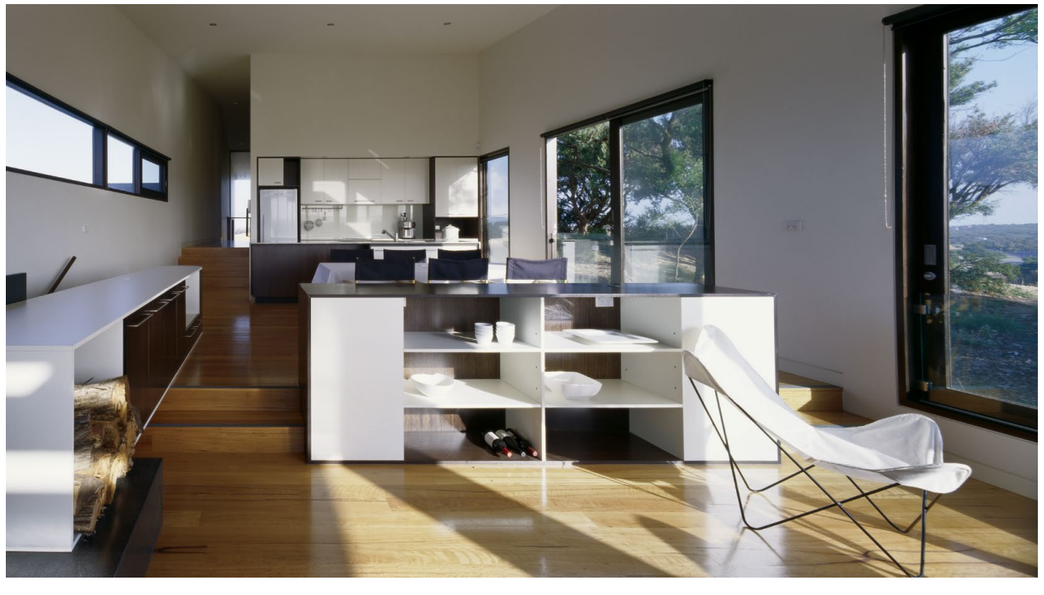
"Secondly we selected external materials which would blend with the surrounding colours and texture of the immediate landscape."



Vertical bands of COLORBOND® steel cladding - in STRAMIT® Corrugated profile - use varying colour tones to echo the changing seasons.

(below) The home's cost-effective design is evidenced by timber veneer panels and 20 mm stone benchtops.





Jackson Clements Burrows completed the home's camouflage on its northeast axis fronting the golf course by introducing vertical bands of COLORBOND® steel cladding in STRAMIT® Corrugated profile, their varying colour tones of Pale Eucalypt®, Windspray® and Wilderness® echoing the changing seasonal hues of the surrounding landscape.

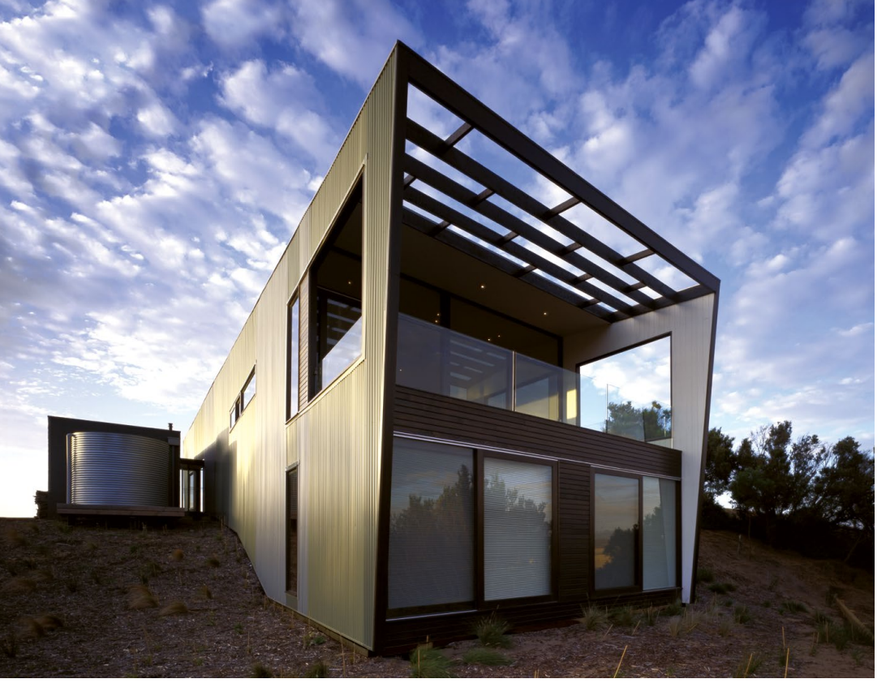
That landscape is a simple mass of Ti-tree, coastal grasses and native shrubs, which help to stabilise the active sand dune on which the house sits.

"One of the interesting elements of this landscape is the variation in colours and tone of the vegetation and golf course in different weather," Clements says.

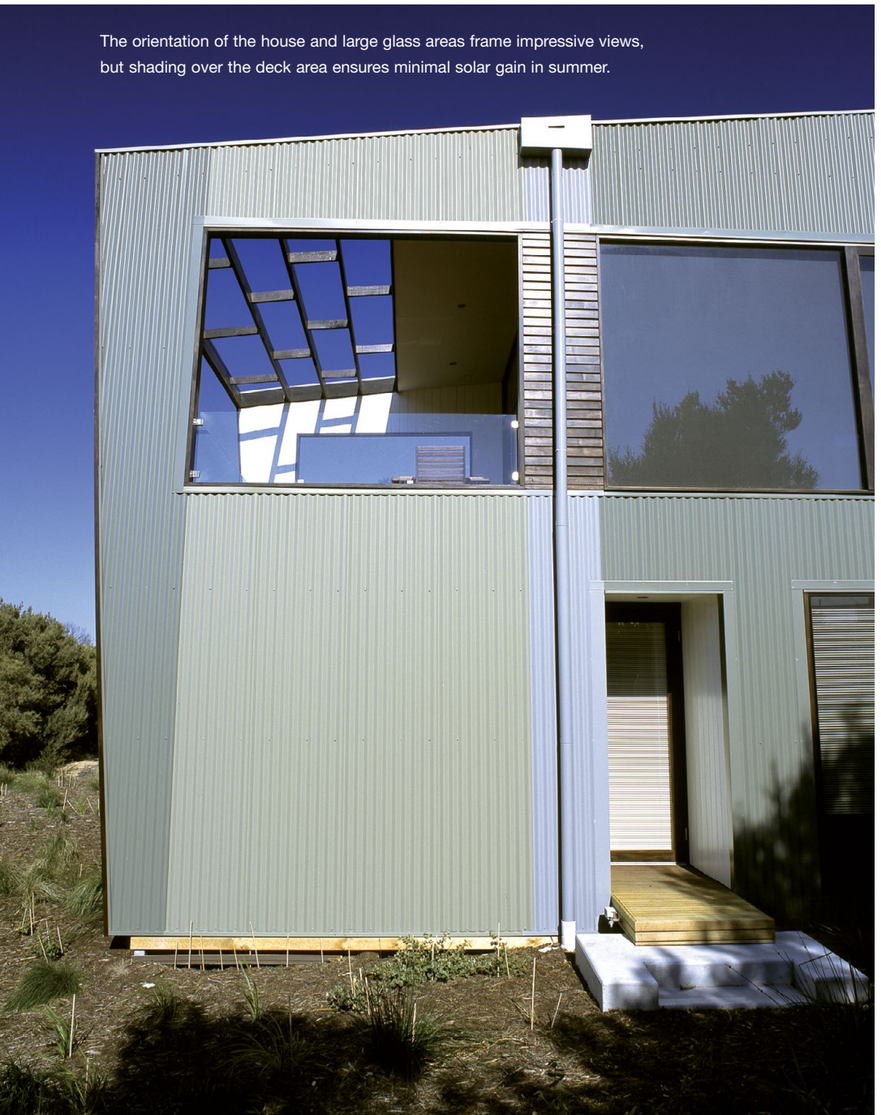
"On overcast days the colour contrast becomes a lot stronger within the total landscape, and in the same way contrast between the COLORBOND® steel colours is enhanced significantly.

"But when low sunlight streams across the site in the morning and evenings, the landscape and building take on a beautiful golden colour and you read the texture of the steel profile rather than the contrast between the colours themselves."

Despite its exposed geographical position - or perhaps because of it - this house is designed



The orientation of the house and large glass areas frame impressive views, but shading over the deck area ensures minimal solar gain in summer.



to blend in rather than to command attention from afar.

"Although this house may stand out now from some aspects, it is in fact designed to disappear into the landscape over time as surrounding sites are developed and native plantings mature," Clements says.

"Viewed from a distance the building is already beginning to achieve this aim - which is important, because this is one of the most exposed sites in the whole Moonah Links development."

Structurally, the house needed to be cost effective and buildable on such a steep, sandy site. This has been achieved by employing a substructure that is a simple timber pole system on steel screw piles.

The external cladding made from COLORBOND® steel helped provide a time-efficient cladding system during construction, as well as a very cost-effective, low maintenance solution for such an exposed site.

"The use of COLORBOND® steel cladding for both walling and roofing was a key element of achieving an expansive brief with a modest construction cost," Clements says.

The building's simple external form meant that the cladding and roofing were installed in the shortest time possible, minimising scaffold cost and providing a protected working environment for following trades.

The cost-effective design approach extends throughout the interiors, where limited timber veneer panels and 20 mm stone bench tops highlight laminate joinery.

"The reality is that a very big part of achieving the budget for this house was the utilisation of COLORBOND® steel cladding because of its cost effectiveness," says Clements.

The use of COLORBOND® steel cladding for both roofing and walling helped combine an expansive brief with a modest construction cost.

Jon Clements says that a key part of the brief from his "empty nester" clients was the home's ability to accommodate their guests in a separate and private zone, while still having the opportunity for their own adult children to stay as well.

The form resulted in split-level internal spaces, which allow effective separation between zones.

"The guest bedrooms are located on the lower level, benefiting from an adjacent bathroom and golf course views," Clements says.

"The owners' family is accommodated on the higher split-level at the north end of the house in two more bedrooms, which are part of another private and separate zone.

"A modest and sheltered entrance to the home opens onto a stairway climbing to the upper level - the level accommodating the family zone which is perched on the immediate dune. From here the visitor is drawn forwards to the open plan living area by the unfolding and expansive views."

Care for environmental considerations is evident in many facets of the home's design. The northeast orientation of the house and the expansive use of glass frames impressive views, but the shading over the deck area ensures that solar gain is minimised in the warmer months. Blinds also protect these windows in the warmer months without compromising the main view.

Sashless windows and sliding doors are sited to ventilate the house very effectively in all weather, with particular emphasis on maintaining a comfortable temperature in summer.

Rainwater collected by the house is stored in a tank made from AQUAPLATE® steel on the south side for re-use on the garden in dry spells.

"What is particularly successful about this house is its relationship to the site in the sense of camouflage, achieved through a considerate environmental approach to its resolution. As a result it demonstrates an appropriately modest presence," says Jon Clements.

**Lisa Smith**

**Project:**
Moonah Links House

**Architect:**
Jackson Clements Burrows Pty Ltd Architects
Tel: (03) 9654 6227

**Builder:**
BD Projects

**Engineer:**
Adams Consulting Engineers

**Principal Steel Cladding**

**Walling:**
COLORBOND® steel rollformed in STRAMIT® Corrugated profile (colours - Windspray®, Pale Eucalypt®, Wilderness®)

**Roofing:**
COLORBOND® steel (colour - Windspray®)
*The maintenance of unwashed areas is critical to the performance of all prepainted steel products.

**Size:**
240 $m^2$

**Cost:**
$1800/$m^2$

**Photography:**
Paul Bradshaw (exteriors), Shannon McGrath (interiors)

# 024

**Project** Myocum Residence
**Architect** Grose Bradley Architects
**Project Team** James Grose, Walter Carniato

## THE HOUSE WHISPERER

**A judicious touch can make all the difference whether handling horses or designing houses. Intuition and technique are so often the difference between champ and chump. Designed principally for a horse behavioural expert, the Kropach/Catlow house brings together equine specialist and sure-footed architect. The result, set at Myocum in the emerald Byron Bay hinterland, is a beautifully handled steel pavilion.**

James Grose has a gift for attracting clients willing to share his ways. This isn't to be confused with the bluff and bluster of architects whose only view is their own. Aesthetic and cultural intimidation only takes you so far. The Kropach/Catlow house reflects a world of difference from the adversarial nature of many architect/client relationships. Grose understands the need for client confidence and this charm travels seamlessly from backyard to boardroom.

"Our clients were interested in modern architecture and design but had very limited means. They had made the "sea change" move to Byron Bay and purchased a parcel of land in the hinterland with fabulous panoramic views of Mt. Warning to the north. When we met them they were living in a steel shed they had erected on the site and were ready to trade-up to a 'new' model. Their belief in our design was unwavering," says Grose, grateful for such faith.

When he isn't conjuring corporate headquarters, his sustainable, steel-based residential work is all assured poise. Almost a decade ago, the iconic and anthropomorphic Newman House at Wollongong catapulted him to national attention. Since then his workload and work categories have kept expanding. But it is his investigations of the veranda as slender, elevated breezeway that have kept him in touch with the ordinary punter.

Grose though can be difficult to engage. He is the first to admit that he can be hard, some say extremely difficult, to track down - and no wonder with projects pitched or underway in China, India and south-east Asia. Recent work includes bumper projects such as National Australia Bank headquarters at Melbourne's Docklands. If he receives a second life perhaps it should be as an octopus. Extra arms would come in handy.

This Myocum residence is a typically stripped composition open to, yet protected from, the elements. A simple diagram and plan is reinforced by a vernacular language notable for its steel frame and softly burnished steel cladding. The stretched veranda is a model of economic and democratic

Horse talk. The screened, veiled north-east elevation expresses a design language of functional, high-performance parts.

(opposite) Open to, yet protected from, the weather, the stretched veranda's repeated elements allow construction economies, thermal efficiencies and similar prospects of site by all family members.

(below) External louvres and retractable external blinds provide effective control of solar loadings.

design. Its extruded form and repeated elements allow construction economies, thermal efficiencies and similar prospects of site by all family members. Far preferable, argues Grose, than the typical Victorian-era and housing estate models that promote a hierarchy of master and minor rooms that result in dark and disadvantaged spaces.

The house is based on an east/west axis to take in views of Mt. Warning. The elevated 'ground' floor incorporates two bedrooms and provides greater privacy with views predominantly to the north. A deck on the western end provides highly useable additional floorspace and adjustable broad bladed louvres add the fine level of breezeway comfort control. Sliding walls/windows concertina to further blue the inside outside experience.Glass louvres are used extensively to generate cross-ventilation. An extended, raking roofline to the north shields summer sun, yet captures winter light.

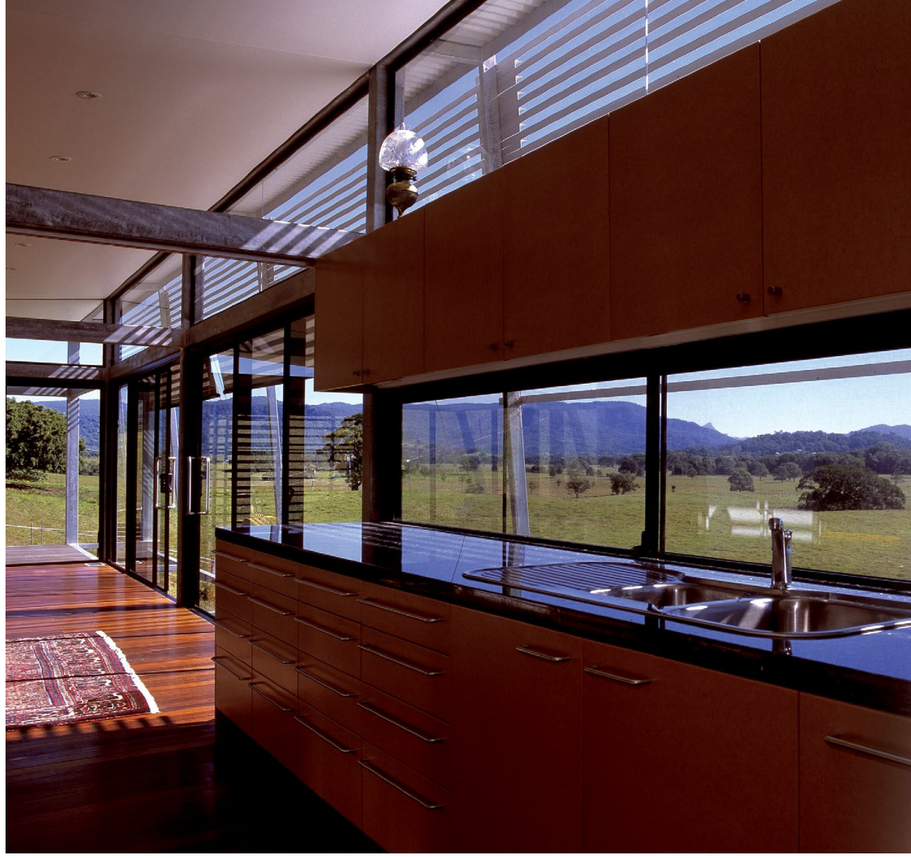
Grose respects the need for private inner sanctum but frees up other space with a clever spatial connectedness. The order and relationship of spaces is partly intuitive touch but also a result of listening closely to client needs rather than anticipation. His preference for the extruded, linear, narrow-bodied form provides privacy and community. The Kropach/Catlow house is part of a distinguished rural tradition. It speaks of a serious attitude towards sustainable design without becoming a victim of formula or fashion.

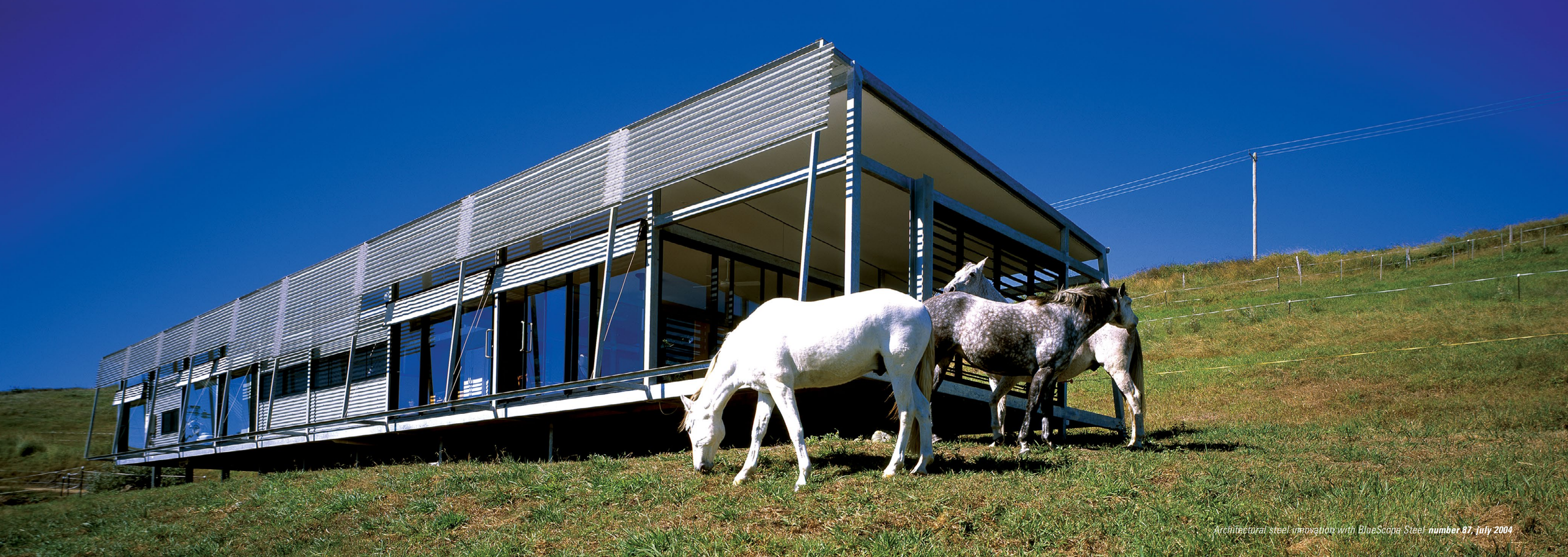
Grose advocates design utility and in this regard the strategy of building in a skeletal form maximises span and minimises columns and cladding materials. Connections are all site welded with steel purlin sub-structure in the roof and timber stud walls. Walls and roof are clad in COLORBOND® steel rollformed in LYSAGHT CUSTOM ORB® profile. In combination with the other structural and shading elements, the house presents as a model of slenderness and transparency.

Sustainability aspects of the house are evident in a number of ways. The most significant is the notion of steel as a permanent material. The structure allows either recycling or re-use of the components; cladding can be unscrewed and reused while windows are fitted directly to the frame, ensuring that they can be easily removed. Thereby the house is just not removable, it is totally recyclable to another location and can be reconstructed in the same manner. This is a potent demonstration of the capacity to make mass market houses that can be recycled.

But is not just in the use of steel that "sustainability" is evident. All rooms and the passageway feature adjustable louvres to maximise ventilation control. This is a fundamental tenet of an architecture wrought by the determinants of climatic comfort.

Grose is critical of the 'scorched earth' policy of most housing estates that cause environmental havoc in so many ways, not least by upsetting the natural ground absorption and drainage patterns with consequent effects on water supply and quality. The principal method of most such housing development is to flatten the topography and enable conventional slab and masonry buildings to be simply





(below) A simple skillion roof and ample glazing provide for high levels of ambient light and visual 'permeability'. The view north reads as a box-glider construction with CUSTOM ORB® 'wings' and 'tail'.

(opposite) View through dining/ living areas. Ample penetration of winter sun.

constructed. In contrast the Kropach/Catlow house is raised on the structural steel frames and makes minimal impact on the ground water system. It also incorporates a pair of 20,000 litre capacity water tanks made from AQUAPLATE® steel as a part of its self-sufficiency program.

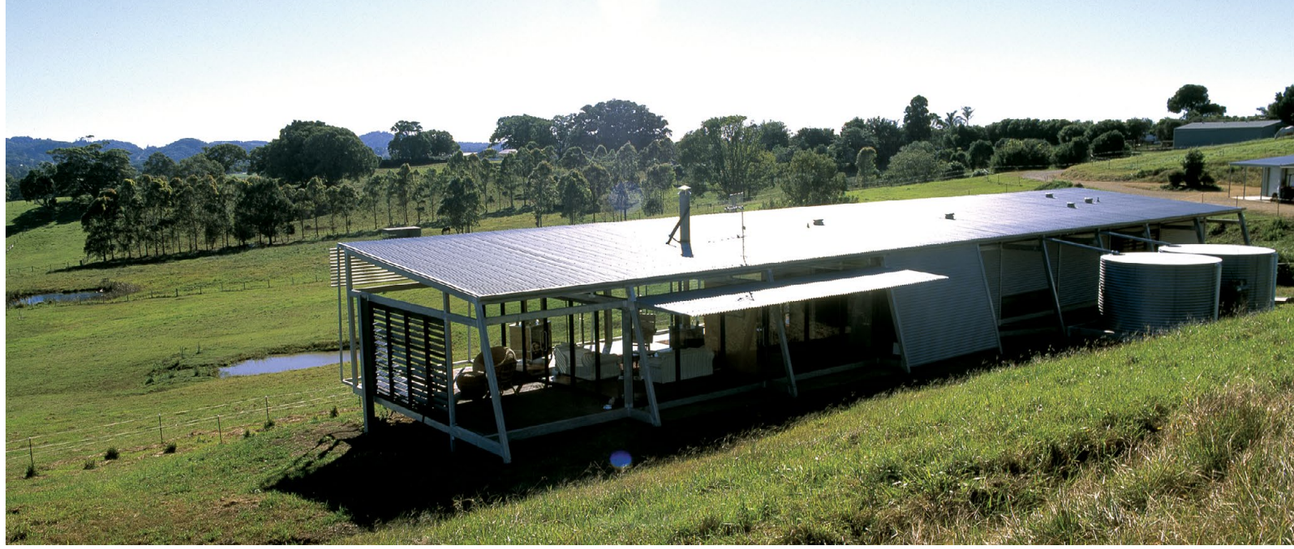
Its design simplicity is based around simple, lightweight construction techniques so obviously suited to this sub-tropical climate. "It operates so effectively in a climatic sense for linear and cross ventilation. As architects we should be making buildings that are environmentally responsible. This house demonstrates that you can have a house that interacts with, rather than imposes itself on, the natural landscape," says Grose. As a result of this philosophy, the house is comfortable all year round without relying on power sapping mechanical cooling devices so necessary for most brick and tile boxes. In cooler months a slow-combustion heater provides efficient, economical warmth.

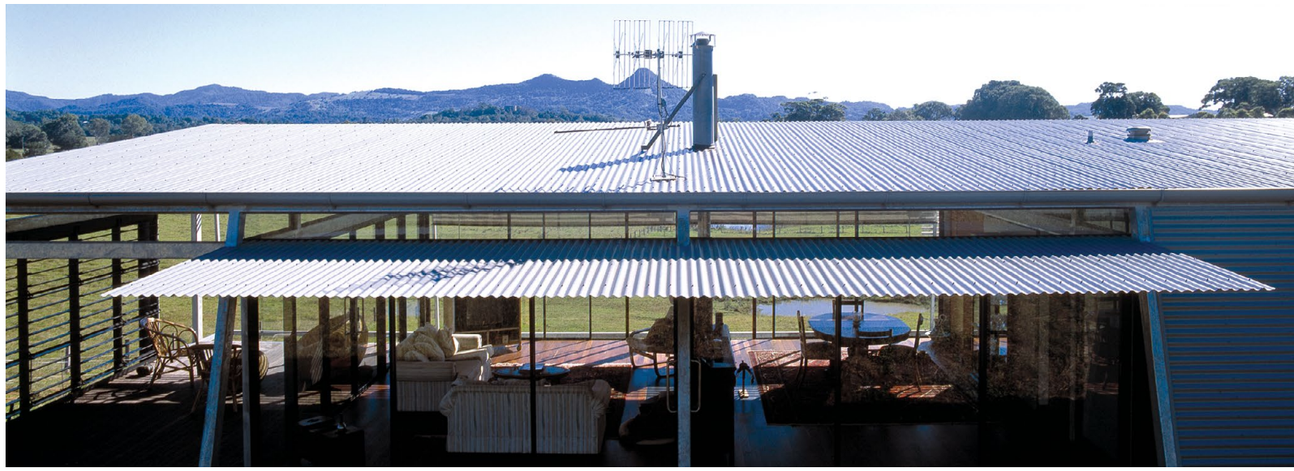
"Steel in contrast is lightweight, requires less fixing and less on-site working and is highly reusable in its original form. It's a very effective ESD solution. It can be unscrewed, unbolted, put on a truck and used again with very little environmental impact," he says.

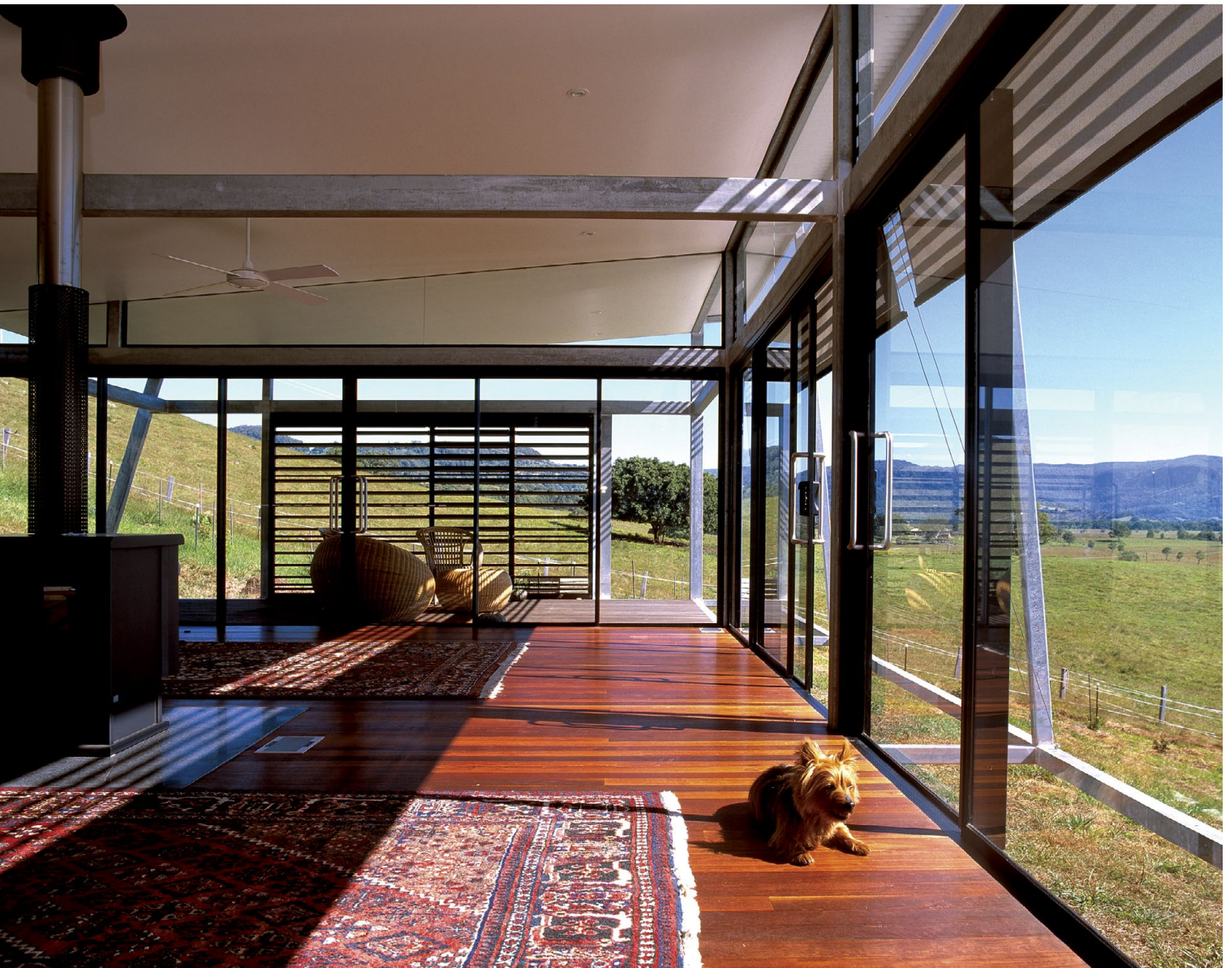
"The engagement of 'utility' and 'place' is critical to the design. Recent developments in Australian architecture have responded to the integration of the indigenous landscape and the built form. It is the omnipresence of the landscape that defines the 'place' of Australia, but it is the dialogue between nature and building that articulates the visual language.

Utility of the veranda works on multiple levels, Grose says: "Firstly the skin comprises a translucent retractable blind that allows light penetration with a partially revealed view. Glazed walls can be opened in the living/dining room to further heighten the relationship to place.

The house emerged from a notion about the form and function of the veranda, a transitional zone in traditional Australian houses, neither inside nor outside; a flexible, informal, multi-purpose space more often than not altered and added to by the dictates of necessity. In this house the veranda is the core without all of the extraneous, costly bulk.







The house diagram is a simple extrusion. A repetitive, galvanised, welded steel portal frame with lightweight infill of glass and steel sheet provides the skeleton and cladding. The frame was pre-fabricated off site, trucked in and promptly erected. Details for the infill elements were kept deliberately simple so that work could proceed rapidly and allow clients to move in far sooner than if they had used more conventional construction methods and materials.

Bedrooms are plugged off a passageway enclosed by sliding wall panels rather than swing doors. This enables rooms to be either communal or closed down for privacy. This layered space offers more floor space than static enclosed bedrooms would normally permit.

"Composition of the house is primarily determined by the informal and ambiguous lifestyle of the family for whom it functions. Therefore the plan is ordered by the imperative to live at the edge of the outdoors, rather than to be embedded in the daily chores of regular life, thus the plan is organised around the veranda."

The steel portal frame evolved in response to the need for sun shading along the northern face of the building and a covered entry to the south. The expanse of glazing on the north elevation precluded the use of traditional shading solutions that would compromise views. A shading strategy was developed to combine a high level fixed screen made from angles and electrically operated roller blinds. At the western end of the house operable louvres are provided for both sunlight and breeze control.

Steel is all pervasive here, but not in a heavy-handed way. Vigorous editing and subtraction produces the distilled, responsive object. As a house it asks something more of its occupants than flicking a switch to control heating or cooling. Living on the edge in such a veranda is to be fully conversant with a most remarkable setting. Grose has little time for the preoccupation with gadgets and finishes that dominate so much house design. "I prefer to ask 'What is it?' rather than, 'What's in it?'" he says.

**Peter Hyatt**

**Client:**
Louise Kropach and Ross Catlow

**Architect:**
Grose Bradley
Tel: (02) 8297 7200

**Project team:**
James Grose, Walter Carniato

**Structural engineer:**
Northrop Holmes Consulting Engineers

**Steel fabricator:**
Byron Steel

**Principal steel components:**

**Roof:**
COLORBOND® steel in the colour Shale Grey™ rollformed in LYSAGHT CUSTOM ORB®

**Wall cladding:**
COLORBOND® steel in the colour Shale Grey™ rollformed in LYSAGHT CUSTOM ORB®

**Size:**
151m² (house) & 22m² (deck)

**Cost:**
$280,000

**Photography:**
Peter Hyatt

# steelprofile

**My inspiration**

I've always valued simplicity in architecture, as well as other art forms, and have been drawn to work which exhibits an absence of the unnecessary. A sense of balance between planning, structure and site response also matters. These features are evident in the work of architects such as Le Corbusier, Mies van der Rohe, Gerrit Rietveld, Richard Neutra, and Peter Zumthor. For example, Le Corbusier's Ronchamp Chapel in the south of France, has distinct qualities - a simple, sculptural nature; thoughtful arrival and entrance sequence; appropriate scale; refined use and detailing of materials; and a seamless connection to both the immediate site, and the wider context beyond. For me, visiting this building was a serene experience, and to evoke a similar response was an objective for the new Tweed River Art Gallery.

The building was designed to be a part of the broad landscape within which it sits, and which is dominant. But it also had the predetermined function of exhibiting important works of art. The outcome was a balance between these two competing requirements – experiencing the setting, and viewing the art. The gallery is articulated to express both needs.

*Bud Brannigan*
*Bud Brannigan Architect*

BLUESCOPE STEEL

**For more information on steel products appearing in Steel Profile visit our website on www.bluescopesteel.com or within Australia contact BlueScope Steel Direct on Freecall 1800 800 789.**

Steel Profile Issue #87

9 320075 040451