steel profile

Architectural steel innovation with BHP Steel Limited

number 82, march 2003

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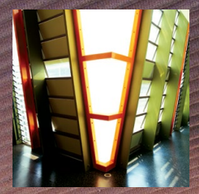
number 82, march 2003 | published by BHP Steel Limited



NUMBER 82, MARCH, 2003. PRODUCTION: Sean Moylan **PHOTOGRAPHY:** Peter Hyatt and Paul Bradshaw
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(cover photograph) On a site that overlooks the shimmering Derwent River, this steel-clad Hobart home creates its own light play as the sun moves through the day.

(this page) Here's your hat. What's your hurry? Lavarack Barracks' award winning housing project provides living quarters for soldiers who appreciate the comforts of home.

BHPSTEEL

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Project	Urban Camp
Architect	Williams Boag
Builder - Stage One	Landmark Builders
Builder - Stage Two	Kirway Constructions
Structural Engineer	Perrett Simpson

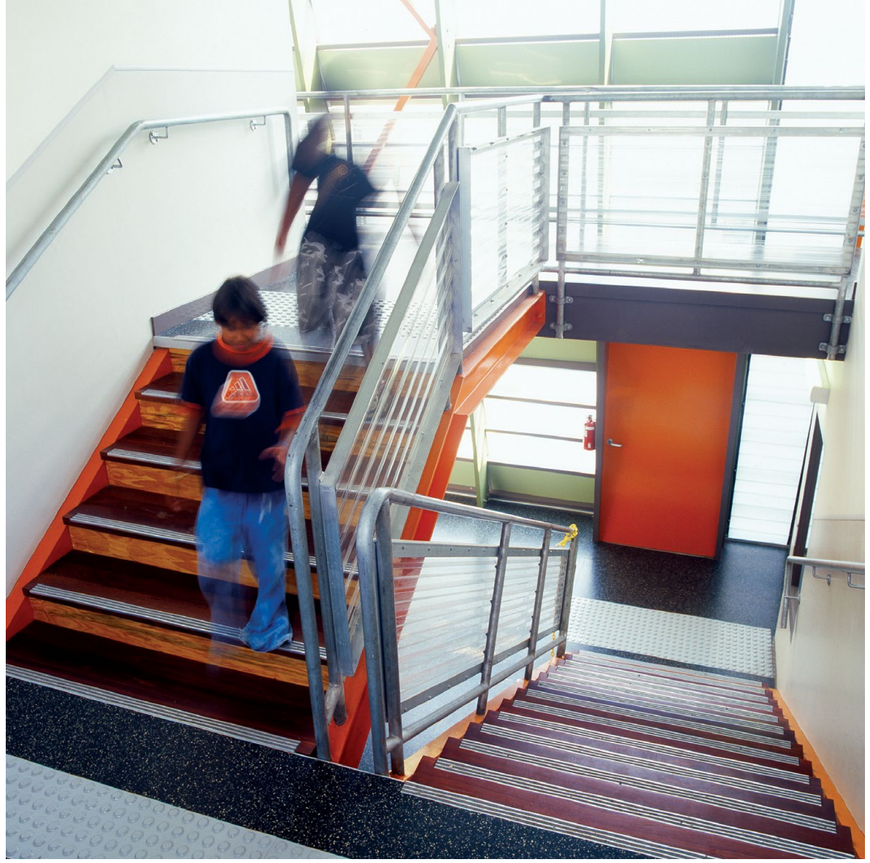
URBAN OASIS

Melbourne's Urban Camp is a rare project by any stretch. It appears utterly rural and occupies the kind of site all governments and most developers would love to hold by the throat. With Melbourne falling head over heels for sports and entertainment venues, it is rare that such a project - primarily for country kids to taste city life - should exist.

Salvaged from the remnants of a World War II army camp, the project is a shining example of altruism, if not downright philanthropy by the City of Melbourne. No other Australian city has had the foresight to create such a facility.

Around 8,000 youngsters from overseas, interstate and country Victoria attend the camp annually. Suddenly children and teenagers who would otherwise get no closer to the city than via television or, at best, a drive through/takeaway experience, get to visit 'the big smoke'. And the architecture of Williams Boag provides accommodation that is adventurous yet responsive to the subtleties of the end user.

Located in the heart of Royal Park on the north western edge of the CBD, Urban Camp is the sort of project that barely registers amid all of the hubbub surrounding siting of the 6000 bed athletes' village for the 2006 Commonwealth Games. With the focus elsewhere on Royal Park and with other budget block-busters sprouting, little attention has been paid to the quiet achievements of this project.



A user-friendly transition from country to city, the Urban Camp remains faithful to its military origins. Dormitory style accommodation is focussed around a central courtyard but remains connected to the original Anzac Hall for dining and recreational space.

The result pays homage to the Californian bungalow/rural shed epitomised by Anzac Hall that was built to help house and cater for Australian, New Zealand and US troops stationed here 60 years ago. Restoration and refurbishment of the hall as a general purpose meeting and entertainment facility maintains an historical link in addition to modernisation.

Retention and major restoration of the existing hall, which is included on the Heritage Victoria register, and a new vibrant dormitory wing produce an intriguing collision of styles that appear altogether plausible. While ostensibly worlds apart, the generous verandah of the old echoes in the new U-shaped (in plan) verandah-style addition. Similarly, traditional louvre windows are given broader blades and provide solar/thermal control via the inclined courtyard window walls.

It is unambiguously modern alongside its vintage neighbour. Traditionalists might blanch at the deconstructed arrangement of columns that help signpost the main entry on the east elevation, but any ideas to re-create a 1940s building would have been nonsense.

The courtyard is highlighted by south and west-facing walls fenestrated by glass and steel louvres designed to act as gills and draw air throughout the dormitory while providing a patterned light and shade throughout the dorm. In many ways this feathered and filleted structure responds to the work of Troppo and the Sunshine Coast group whose multi-layered steel designs extract every available ounce of energy efficiency and solar/thermal performance.

Such seemingly small details might appear inconsequential, yet they are designed to provide an appreciable difference to comfort levels. There is a debit amongst all of this. Alterations

ZINCALUME® sheet and oversize glazing 'gills' of the courtyard create an economical, vernacular design language tough enough to comfortably cope with 8,000 visitors a year.

to the architect's drawings saw the removal of adjustable vents above dormitory doors, thus blunting the effectiveness of the fine idea established with the courtyard louvred walls. This is now an essential piece of post-operative defects correction. The Urban Camp is a breath away from being the absolute envy of all other Australian cities. The last thing it should be is a sweat-shop.

Remembering the purpose of such facilities is everything. The intent here is to provide a comfortable home for young out-of-towners, so there is little point creating a lofty, monumental, block that radiates power but has zero appeal.

There is little military in the traditional sense about the shape of the new, but the muted green and silver steel cladding clearly reinforces a sure environmental fit. Architects and clients are sometimes not above condescension in their script for community facilities. Especially so with the application of cheerful colours and juvenile graphics which in turn invite graffiti or vandalism.

In this regard Williams Boag applies just the right touch. The form and relationship of the old and new to their surroundings is impressive. Specimen eucalyptus and straw-coloured summer grass contribute to the colour palette of silver and green coated sheet steels. Muted colours reign throughout the interior and daylight levels are lifted with corrugated acrylic sheet along with glazing.

The 96-bed dormitory is beautifully placed in its landscape and cuts into the natural slope to obtain a secure embrace. This is echoed in plan by the dormitory structure and courtyard to provide all-weather shelter.

An elevated pavilion might have had the bigger presence, but what this lacks in up-front boldness is more than compensated for with self-containment. Circulation zones are direct across two levels in the dormitory with a centrally located rather than perimeter staircase.

These facilities receive plenty of enthusiastic, sometimes rough, use, thus durable materials are crucial while avoiding any sense of Alcatraz. Externally sheet steel cladding signals a not-too-distant rural vernacular that will remind many guests of home without being twee in the process. A simple, skillion roof and steel wall claddings provide a calm sense of surface to a quite dramatic composition.

This simple treatment of corrugated surface in contrast to flat zinc-coated steel sheet is a refreshing respite from the growing tendency of exaggerated and visually incompatible surface treatments. Roof cladding in ZINCALUME® steel rollformed in CUSTOM ORB® profile provides a suitably fine edge reflected throughout .

The Urban Camp has grown from unremarkable beginnings, originally laying claim with a finger hold to its neglected facilities in 1984. In its new incarnation, Urban Camp registers a strong grip on its place in the city's architectural discourse. Distinguished and notable architecture rarely surfaces in cities dominated by commercial towers underwritten by investment funds. Fund managers are rarely motivated to surpass the built work of other fund managers and their architects.

Melbourne's much touted cultural renaissance has not resulted from its high-rise at all. No surprise in this. Curiously, it is those projects adopting the horizontal line that seem to get the idea - DCM's Melbourne Museum and Exhibition Centre, Wood Marsh's Centre for the

(top) West elevation reveals restored rear of Anzac Hall, central services section and left, the accommodation wing. (below) The east elevation of the original Anzac Hall. (opposite) The north elevation (dormitory) reveals a careful relationship between landscaping and a contemporary form subdued by a compliant colour palette.

Contemporary Arts, H2o's State Emergency Services and even the controversial Federation Square are stars among them.

Less surprising is the absence of private enterprise investors seeking the fast turnaround. Had the Urban Camp been born from the non-government sector, the urge to head for the sky - a consistently banal response to maximise lettable space - would most likely have produced something else amongst a swag of deals and concessions... High Camp perhaps.

Fortunately this Urban Camp took a turn for the better and Williams Boag have ensured its efforts, albeit on a modest scale, extend this persuasive connection with people and place. Visitors who see this as 'just a shed' will hopefully discover its vernacular of being 'a bloody fine shed'.

Peter Hyatt

Project:
Urban Camp, Royal Park Melbourne

Client :
City of Melbourne
(Lise Morgan project manager)

Architects:
Williams Boag

Project team:
Peter Williams, John Clark, Andrew Croxon

Landscape architects:
City of Melbourne

Structural engineer:
Perrett Simpson

Builder:
Stage 1 - Landmark Builders,
Stage 2 - Kirway Constructions

Steel fabricator:
Stage 2 - Churchill Maintenance and Fabrication

Principal steel cladding:
Flat sheet ZINCALUME® steel and COLORBOND® steel in CUSTOM ORB® profile used as wall cladding. Roof cladding made from COLORBOND® steel in CUSTOM ORB® profile in the colour Slate Grey.

Size:
Existing 940m², new 650m²

Cost:
Stage 1 - $940,000
Stage 2 - $1.8 million

Photography:
Peter Hyatt

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Project The 'Small Houses' Series
Architect Poole Design
Design Team Gabriel Poole
Builder: Houses by Hand (Dominic Hand)

LITTLE BIG HOUSE

Gabriel Poole's latest foray into the slippery slope of project housing comes with a caveat - build it to a standard, or not at all. "Quality control," says Poole, "is (almost) everything."

Dubbed the 'Small Houses' series, Poole's fascination with pre-fabricated, steel-clad kit designs is one challenge to the 'scourge of tract housing'. Flexible and climatically responsive, his latest project is the big idea ready to truck or train anywhere in Australia.

Even though Gabriel Poole prefers to distance himself from mainstream architecture - "expensive to the point of being irrelevant for most people", he clearly can't escape the gravitational pull as one of the profession's luminaries. It follows from his combination of experience, capacity and a 'trophy' cabinet jammed with awards that include a Robin Boyd and the RAIA's 1998 Gold Medal.

There's not much about Poole that fits the tired literary or film stereotype of the architect as a cashmere-clad poseur. His background as a farmhand and builder provided a grounding simply unavailable, or of little interest, to most of the prestigious higher educational institutions. Yet it is this toughening up process that underscores his creativity.

Everything about the man is that bit unconventional. Nothing fits with the stereotype of the architect. And he likes it this way. There's no cool Armani edge, and his sailor's cap doesn't come off under any circumstances. Unless it's lifted in an almighty gale, or just before retiring to bed. Even then, one suspects, Elizabeth Poole, combines stern words with a well timed swing to ensure its removal.

Poole's commitment to the Sunshine Coast has been unshakeable since setting up base there in 1969.

At 68 years of age, he has seen the cycles of fad and fashion come and go, yet he has retained a focus that has resulted in a string of original designs. His recently launched series of 'takeaway' housing only strengthens a name aligned with innovation.

His output is as prolific as ever, with literally hundreds, if not more than a thousand, projects sprinkled around the

Poole's 'Small Houses' are anything but dwarfed in their scope and finishes. Flexible sizes and modular nature permits tailored designs to client specifications.

"The beauty about this house," says Poole, "is that if you build like this and have another child, you simply build on and when they grow up and move, you put the bedroom on their back and they take it away with them."

'Coast connecting, often poetically, with the environment. His own house, at Eumundi (Tent House) was a Boyd winner in 1991, for instance, and his Lake Weyba House, although never entered in the RAIA awards, is widely regarded as one of the best houses never to collect a Boyd.

Other projects included the technically complex, but practically simple Quadropod system that created a new generation of spidery steel platforms that elevated his designs to new heights. More recently his Capricorn 151 series of steel framed and clad 'kit homes' investigated market possibilities for environmentally friendly project housing.

With his practice of 10 staff working unobtrusively from a Noosa business estate, demand is booming. He could probably double, or treble, staff levels and turnover, but prefers his architecture to remain manageable and focused. Running 'flat to the boards', he has little interest in growing business to the point where it operates on remote control and he loses touch with people other than his accountant.

His somewhat oddly-named Small Houses series (they can be expanded to almost any size) is a fightback against the brick veneers that are crowding estates in every direction. He hopes his steel framed and clad project homes will help alter perceptions about affordable architect-designed housing. The design series offers an almost infinite configuration of linked modules depending on site, need and budget. The Dom House, for instance, has four bedrooms.

"Consumer demand," says Poole, "created the project. People keep ringing up for alternative and affordable housing so we produced the new range. This house (for builder Dominic Hand) became the 'Dom' house and is probably better suited to a larger than standard-size block. Smaller land might require a courtyard version of this house."

Quality control of project housing - Poole dislikes references to 'kit' housing - is a key. He has seen many examples of opportunity lost by poor finishes, missing parts and dumbing down of the original.

"We're emphatic about this. We are not prepared to give people plans and have them disappear to some part of Australia. We know what happens with builders; the first thing they say is 'You don't need those bloody gutters, we can rip those off and you don't need that stupid ridgebeam, it should come off...' and by the time it's finished it's got my name on it but it doesn't look like anything I would have done," Poole groans.

Assembled into a kit of parts in Brisbane, the series can be easily and economically transported to site and bolted together. "Even the cabinet work will be included so in that way we can control quality and ensure its integrity.

"The other issue to remember is white ants," Poole explains. "These are a real problem across much of Australia. Unfortunately the poisons are simply not as effective as they once were. With a steel house you have a much better chance of having a house in 20 years.

"The house design is just a very simple principle. The layout works, the ventilation works and we've just concentrated on simplification to achieve clean lines. In this house we've concentrated on it being easy to assemble by using a simple truss roof and pre-nailed wall frames. Yet for all this simplicity it feels solid and it will stand anything white ants can throw its way.

Features include a steep pitch roof which allows for cathedral ceilings using prefabricated scissor trusses. The roof is clad in ZINCALUME® steel in LYSAGHT CUSTOM ORB® profile and features in-built gutters and a folded steel barge roll. Roof gutters are screened by a fine metal gauze that resists leaf and debris. The Dom House is also the first of the Small Houses series to use wall cladding made from COLORBOND® steel in the colour Gull Grey, rollformed in Stramit's MINIRIB® profile to create a distinctive difference from the more traditional corrugated profile. Raised flooring utilises the principles of the traditional Queenslander to improve ventilation and cooling.

The house consists of three separate, yet connected, pre-fabricated modules and a red-walled garage.

(below) A steep pitch roof produces cathedral ceilings while externally in-built gutters and a folded steel barge roll result in a crisp roofline.

Flexible, versatile spaces are achieved through sliding walls to partition or open for privacy and breezes.

Poole is savage on the spread of typical tract housing glued to the ground. "The brick box is too cheap. They're building one across the road from our house and I don't know how people live in these. They put one window in a bedroom and that's how they make them cheap. They're just not liveable. Eventually you have to put air-conditioning in and it's crazy that we should be designing houses in this day and age that require that."

Poole holds largely responsible the commercial barons who live far away from these estates."You get about 500 houses to the acre and the roof gutters just about touch. It's not about whether it's right or not. People don't give a stuff about whether it makes a better life or environment. It's all about money. That's our downfall," he opines.

He prefers to see his Small Houses series as making a difference to the lives of their owners who can find repose and privacy on a deck, or in a breezeway. "The principles that drive this house are ventilation and space utilisation. If you want to find out just how efficient the venting system is, stand in front of the roof vents," advises Poole, "and just experience the rush of hot air."

The folded ridge cap of the roof line is opened and screened at both ends for greater air flow.

Poole also recommends the use of solar roof exhaust fans to assist ventilation instead of relying on ceiling fans to circulate heated air.

"The fear that steel clad houses are 'hot boxes' is totally unfounded," says Poole. "It isn't a hot house - for no other reason than it's well ventilated."

Insulation also means that there is effective heat deflection. In addition to steel's reflective qualities to help keep it cooler, there's none of the retained heat of masonry and tile.

"I've been saying for years that houses are going to go down in size because the big versions aren't going to be needed in 20 years time," Poole says. "Typically, families are shrinking, or people aren't getting married at all.

"The beauty about this system is that if you build a house like this and have another child you simply build on the extra bedroom and when they grow up and move on you put the bedroom on their back and they take it away with them. So it really offers portability and flexibility."

Apart from the simple modular linkage, a form developed on his superb Lake Weyba house, the project and transportable versions also include push back walls that slide into, or from, wall cavities to open or section off space. "You can push around this house and make it adaptable to a variety of sites. That's a service we have to offer as architects.

"I'm getting calls from many people who don't want a spec. house. They want something better but can't afford an architect. They can afford to go another $200-$300 a square metre over the spec. house to get something like this. Generally speaking, the wealthier the client," Poole laments, "the more unappealing they are to do business with."

A flood of money has headed north to chase the dream of a sub-tropical lifestyle.

"Many of the buyers are merely investors who've got no intention of living in these houses. They just build rubbish, sell it off and move on. You can't just complain about this situation. You have to try to do something," Poole suggests, suddenly increasing the possibilities by the power of this most significant one.

Peter Hyatt

Project:
The 'Small Houses' Series
Architect:
Gabriel Poole - Poole Design
Design Team:
Gabriel Poole
Builder:
Houses by Hand
(Dominic Hand)
Steel Fabricator:
Studio Steel (Barry Hamlet)
Principal steel cladding:
Roof - COLORBOND® steel in the colour Armour Grey, rollformed in CUSTOM ORB® profile
Walls - COLORBOND® steel in the colour Gull Grey, rollformed in MINIRIB® profile
Size:
220 sq.m.
Cost:
$1,200 - $1,400 sq.m.
Photography:
Peter Hyatt

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Project: Lavarack Army Barracks, Townsville
Client: Australian Federal Government, Department of Defence
Architects: Bligh Voller Nield (Brisbane) in assoc. with Troppo Architects (Townsville) Sonia Graham (BVN), Phil Harris and Geoff Clark (Troppo)

TACTICAL RESPONSE

Military bases and installations have a heightened community relevance with the escalation of global tensions. Australia's Top End has a strong military presence and Townsville's Lavarack army base has a high public profile. Situated at the foot of Mt. Stuart to the city's south, Lavarack Barracks is home to some 3500 service-men and women.

The barracks' success in the 2002 RAIA national awards in winning a Robin Boyd award for housing, is a surprise for a number of reasons: It is one of the few times a multiple housing entry has won the coveted prize; the awards entry was initially rejected; and not least, the army is hardly renowned as a buyer of architecture. With a single army Black Hawk helicopter costing around $18 million, budgets for stylish design are difficult to find.

Take two of Australia's top architectural firm's working in the Top End and the results are a military makeover of some note. Army bases can be little more than tent cities or, on a slightly more permanent basis, a regimented garrison of ugly shacks. Lavarack signals an infinitely more civilised ethos.

Many of the lessons learned from years of working in the tropics inform the solution of project architects Troppo and Bligh Voller Nield (BVN). Covering some 20 hectares, the project encompasses 1,004 units and sets a lofty new standard for military and environmental architecture.

Designed as a series of communities in three distinct precincts of development, the project provides a green focus that incorporates lush landscaping and linked recreation and dining facilities.

This is a conspicuous swing in army culture to create facilities in line with community standards. Project architect Phil Tait of BVN discusses some of the tactics the architectural team employed in marshalling their talents and to win over their client:

Was there a clearly defined chain of command between Bligh Voller Nield and Troppo, or was it all for one and one for all?

I would like to think that we developed a fluid relationship... pun intended! We formed the 9th/18 Mobile Architectural Squadron to promote discussion, brainstorming and sketching sessions over dinners. Our motto was 'remember to keep the main thing the main thing'! In this case that included working under a project management regime that was very much Project Management and QS-led design-and-construct.

What was the process to achieve success?

It was reasonably well ordered once the usual issues of budget, program and briefing were dealt with. We did this early by producing a guideline document that was signed off. It became the 'instruction booklet' for the project direction. We were also very fortunate to have a project officer from the defence department who was very interested and well read in architecture. He became our 'patron' if you will, championing our ideas when the direction became diverted from the main and imperative architectural issues.

Did you use many military references and techniques to help shape the result?

Well, one of the main design ideals for the project was robustness. We used the analogies of strength, durability, toughness, directness and the tradition of the military quite often in talking about the project. Lavarack's Ready Brigade troops are largely transient. They are only here preparing for the next assignment. This perhaps influenced our design approach with the clustering of the building arrangements, somewhat like encampments, based on traditional unit manning ratios - all designed to promote community and team building.

Did you learn anything from working with a military client that surprised you or influenced the outcome?

We were impressed by their decision making ability, their concern for the troops and their appreciation of the need for quality. They weren't afraid to invest the necessary money and time.

Given the availability of real estate, what were the principal ideas behind building taller instead of lower?

There isn't really as much buildable land available as is widely imagined. There is a lot of unsuitable terrain, steep slopes, creeks and wind shadow areas. There were also limits and defined precincts set by an existing masterplan. To build with

One of three principal housing clusters with more to be added this year.

smaller footprints also meant more site for trees and critters and floods (not to mention V8s).

What sort of innovation and difference have you made?

I think there are aspects of community building and housing principles drawn from our collective experience, as well as the use of pre-fabrication and attention to ESD issues. We certainly gave plenty of attention to durability. I think we also demonstrated that building cheap and hard can also be fun!

In your research, what were the recurring issues, or responses, that either impressed or deterred you?

Building in clusters helped to create a sense of community, yet you need to ensure privacy. Typically, ESD appeared low on some agendas, also we wanted to ensure this housing reflected an intelligent simplicity.

Government projects frequently demand understatement to reduce fears of criticism for high-spending. Did you encounter much scepticism about the relevance of architecture as opposed to the mere act of building?

That never seemed to be an issue. Everyone considered the project understated but clear, robust and functional. Perhaps that was in the way things were described in presentation.

There is a view that good design is becoming more highly valued by government - demonstrating value for money. Good design costs no more and in fact often saves money.

What are the principal techniques used to produce energy efficient structures?

In this case, simple really: Standardisation, pre-fabrication and orientation.

What is Lavarack's major achievement? Any disappointments?

Primarily it is the acceptance of the occupants. They will always tell you when you have it right, there is great satisfaction in that aspect. So is recognition by your peers. A disappointment has been how difficult it is to capture the essence, feel and size of the project photographically.

How does your response deal with harsh climate?

Townsville has a dry tropical climate - rain comes very infrequently. We incorporated traditional local models - ie. the north-Queenslander, including its use of large overhangs, and bold sun-shading, often 'clipped on'. Stretching verandah areas to the maximum allowable under the Army's accommodation deal with its soldiers was always a priority.

The articulation of structure produces fragmented and layered forms. There is almost something un-military in its informal composition. Was there any sense that your initial design proposal was too tough?

No, our concern to overcome the typical barracks model was accepted by the military - this and other 'principles' for instance - siting, materials, colour palette, fixtures and fittings were established early, signed off and then the formula rigorously applied.

The staircases are very gutsy to the point of appearing almost exaggerated. What is the purpose of their treatment?

We have had comments that they appear to be "after the cyclone". The shell blocks of the unit buildings mass up as 4m wide by 45m (6 units) long by 8m (3 floors) high rectangular solids each containing 18 units. Stairs, balconies, sun-shading, etc are added to these simple blocks generally on the sides that face the community areas. There is a stair between every two units (for privacy and address) and therefore three stairs per building. There are quite a few stairs and they add texture and interest to the long flat facades.

"Townsville already had a fine tradition of prefab 2-storey steel-frame buildings from the 60s. And moving on from these nicely rugged and direct examples, our design features narrow-waisted buildings that ventilate and light much more efficiently and are carefully orientated to minimise solar loadings, yet are pleasant to be in," says project architect Phil Tait of BVN.

Officers mess combines quality recreational space with a high level of finishes.

How efficiently does the design and steel cladding deal with the environmental issues?

It's probably fair to say that steel used on an army base in this way is quite radical. More recent military base housing resembles suburban motels. But Lavarack already had a fine tradition of prefab 2-storey steel-frame buildings from the 60s. And moving on from these nicely rugged and direct examples, our design features narrow-waisted buildings that ventilate and light much more efficiently and are carefully orientated to minimise solar loadings yet are pleasant to be in. We use large openings, verandahs and outdoor spaces to allow for privacy and community. Apart from its distinctive appearance, steel cladding is durable, lightweight, thermally efficient and capable of prefabrication off site.

What kind of energy savings, if any, does this solution represent over the conventional masonry block?

There are savings on capital costs and the ability to prefabricate off-site saves energy, materials and minimises waste. This reduces site overheads, avoids wet trades on site and performs well to ESD standards. In fact another 108 units built in this fashion will be added to Lavarack's housing stock this year.

How does steel's expression fit the military environment?

Structurally the external steel elements helped overcome the relentless 'egg-crate' nature of the basic slab concrete framed shell of walls and floors. Steel cladding is cost effective, low maintenance yet it offers a textural quality with vernacular references that touch on a machine, or military aesthetic.

Were you surprised to win a Robin Boyd Award for Lavarack? I understand the judges rejected your first submission due to 'poor presentation images'.

We were very surprised and honoured. It was one of the first multiple unit residential projects to be awarded in this way. Thiess need a special thanks for backing our ideas. It is a public, but low profile, project that doesn't have the instantly evocative image associated with a one-off house.

After Cyclone Tracy, a concrete bunker mentality overcame the Top End. What has brought about the return to lightweight cladding?

I reckon it's all to do with a thoughtful response to climate, materials and the vernacular - just plain old common sense really.

Peter Hyatt

Project:
Lavarack Army Barracks, Townsville

Client:
Australian Federal Government, Department of Defence

Architects:
Bligh Voller Nield (Brisbane) in assoc. with Troppo Architects (Townsville) Sonia Graham (BVN), Phil Harris and Geoff Clark(Troppo)

Structural engineers:
MPN Queensland

Landscape architects:
Clouston

Builders:
Thiess Pty Ltd

Steel fabricators:
Cairns Steel Fabrication,
Principal steel cladding components:
Wall cladding to levels 2 and 3 - ZINCALUME® steel in Custom Orb® profile laid horizontally.
Wall cladding to bathroom modules - ZINCALUME® steel in Mini-Orb® profile laid horizontally.
End wall screens - ZINCALUME® steel in Custom Orb® profile laid vertically. Lightweight perforated ZINCALUME® roller doors. Roofs to LIA unit buildings, balconies and stairs - ZINCALUME® steel in Custom Orb® profile - Roof Soffits Zincalume® in Custom Orb® profile to main and balcony roofs, unlined stair roofs. Stair-roofs and ZINCALUME® steel in half round gutters.
Carport roofs - ZINCALUME® steel in Custom Orb® profile.
Roller doors - COLORBOND® steel.

Cost:
$80 million

Photography:
Peter Hyatt

022

Project	650A Sandy Bay Road, Hobart, Tasmania
Client	Sally-Ann Stalker and Scott Clark
Designer	CB&M Design Solutions
Builder	CB&M Design Solutions

RIVER CHAMELEON

A burnt out-shell of a house on Hobart's picturesque Derwent River has become the basis for a chameleon home which reflects the changing colours and moods of its waterside environment - as well as a client's dreams.

"In many ways it was an unusual brief," says CB&M Design Solutions Pty Ltd principal designer John Dingemanse. "A tragic, major fire had some time ago gutted a house built at Hobart's scenic Sandy Bay and our clients approached us at the stage when they were considering making an offer for the property. We assessed their needs, did some concept designs and budgets and even advised them what they should offer for the land. Then they purchased the site."

That was the easy part.

The method of operation of the CB&M Design Solutions team led by John Dingemanse would be regarded as unusual in many other capital cities throughout Australia, but given Hobart's size and market characteristics it has proven to be a logical approach.

The company used its own in-house resources not only to design, but also to build and even carry out landscape gardening for the new home which has risen on the site. From start to finish the project took nine months.

Visitors cross over a wooden bridge to enter into the home's modern, open-plan interior.

Forlornly occupied by the foundations of the previous home and a semi-burnt out shell that had remained in defiance of the fire, the site presented a tantalising attraction to start all over again. But rather than demolish these remains and start from the beginning, CB&M decided to capitalise on them as the basis for the home.

"Our intention was to use the existing foundations and shell of the building where possible, so we partly demolished it, retained the existing brick walls on either end of the gutted home and then amalgamated old and new to create the structure that occupies the site today," John Dingemanse says.

His company's design was inspired by the Derwent River and the continuous stream of sailing boats that regularly seem to fill the idyllic waterway.

"We wanted to create something very nautical in appearance," Dingemanse says. "The sail-shaped roof forms we created were an obvious starting point, but then we added stainless steel ballustrading on the inside and outside, a checkerplate staircase and steel - lots of it."

The home stands in one of the most prestigious locations in Tasmania, overlooking the Hobart harbour. Although surrounded by multi-million dollar residences, this much less expensive residence remains highly visible and prominent from both the water and Sandy Bay Road.

The Dingemanse-designed home was the first in Tasmania to use COLORBOND® Metallic steel, part of BHP Steel's premium product range which draws on the reflections of the surrounding environment to create a subtle, yet dynamic look.

As light passes over the mica particles in the metallic finish, the appearance of the painted surface changes and a perception of depth is achieved. Its look and texture change depending on light and viewing angle - just like the Derwent River at Sandy Bay.

"We were eager to use the Metallic Steel on a prominent project and this one was the obvious choice. We selected the colour SKYBRIDGE™ for the roof to provide a visual link to the sparkling waters of the Derwent."

"We are very pleased with the end result we were able to achieve in a corrugated profile," Dingemanse comments. "It has allowed the curved roofs at interposing angles to reflect the sunlight with a shimmer. When you're looking at the house from the road - or from across the water with the water sparkling in the sunlight - the home very much physically reflects its environment - so you can see that we've used COLORBOND® Metallic steel as a major feature of the design.

"On the walls we were keen to use a combination of materials, so we selected ZINCALUME® steel cladding in corrugated profile to provide a coarse textural counterpoint to areas of bagged brickwork. To achieve even greater contrast in colour the walls of the adjacent garage and panels of the boundary fence were clad in COLORBOND® steel in the colour Ebony. We feel the result is stunning."

The new home is in fact a striking transformation from the half burnt-out shell that many in Hobart remember as an eyesore. In its new incarnation it has attracted widespread interest from passers-by - and a brace of industry awards.

Sail-shaped roofs, stainless steel ballustrading and steel walls give this home a very nautical feel.

COLORBOND® steel in the colour Ebony contrasts with the striking ZINCALUME® steel finish to offer an imposing facade overlooking the Derwent River.

More importantly, the home provides exactly what the client wanted.

"We were looking for something different," says owner Sally-Ann Stalker. "Because it occupies a unique spot the home had to be very modern and it had to capture the water views - and still fit in with our lifestyles. Every room has a water view, except the study which has a view of the ornamental pond that creates a dramatic effect as you approach the home."

Entry to the home is via a wooden bridge over the pond.

Once inside, the spacious, open-plan interior employs polished timber floorboards and stainless steel detailing to achieve a modern but not clinical feel. This level contains a dining room, living area and the kitchen as well as two bedrooms. All capture spectacular north-west views of the Derwent River through floor to ceiling windows, while expansive external decks surround the open plan living room and further break down the barriers between land and water. A stainless steel checker plate staircase leads downstairs to the guest room, bathroom and laundry facilities.

Energy efficiency principles were a key to the home's design and use of materials. As well as employing lightweight steel construction, the house is tuned to Hobart's climate with wall and ceiling insulation and employs double-glazing in all living areas to minimise heat loss in winter. Grey-tinted glass is used for all the home's windows to limit the heat of the sun.

From the Derwent the steel and glass which encapsulate much of the exterior of this river home strike a dominant but not discordant note.

The design's cladding elements of familiar ZINCALUME® steel, COLORBOND® Metallic steel in the colour SKYBRIDGE™ for roof cladding, COLORBOND® steel in the colour Ebony and fascia painted brickwork work together in surprising harmony.

The large, expanses of steel cladding and glass create a contemporary look, while the curved and angled roofs re-create the flow of the river below.

"It was a great project. For us it was a great success," John Dingemanse declares.

"We were able to be very creative in the way we came up with concept designs and the use of materials because of the spectacular site and a client who was prepared to be creative.

"The client had seen a lot of the work we'd done previously and also liked our style of building. The relationship was good from the outset. They said: 'Go ahead, see what you can do'… so we did."

"The architect captured everything we asked for - now we feel we have the perfectly designed house for our lifestyle," said client Sally-Ann Stalker.

"Obviously there are other people who share our enthusiasm for the house. We were offered a considerable paper profit by a would-be buyer before the building was even completed. We're still here."

Paul Cheal

ENTRY FLOOR PLAN

DESIGNER'S STATEMENT

We were approached by the client to design and construct a home with a difference somewhere in Sandy Bay on the western shore of the beautiful Derwent River.

After selecting the site we prepared a concept design that complemented the existing adjacent properties, worked within the constraints of the site and the existing burnt out building, provided the quality of lifestyle that our clients desired and provided a stunning visual link to the sparkling waters of the Derwent estuary.

The form of the building was purposely designed to incorporate the use of gentle curved roofs, large windows and a combination of horizontal lines and textured panels.

External materials were carefully selected to both provide a stunning contrast to the existing buildings in the area as well as being sympathetic to the magnificent waterfront location.

Optimising energy efficiency while maximising the stunning water views was a crucial part of the design intent. Uninterrupted floor to ceiling glass provides access onto expansive timber decks on both levels, blurring the lines between the interior and exterior.

The energy efficiency and thermal performance of the finished home is outstanding without sacrificing practicality, comfort and quality of lifestyle.

Although a substantial home on a strategic site, this building is dramatic yet understated in its elegance.

Project:
650A Sandy Bay Road, Hobart, Tasmania
Client:
Sally-Ann Stalker and Scott Clark
Architect:
CB&M Design Solutions, Tel: 03 6332 6988
Builder:
CB&M Design Solutions
Landscape Architect:
CB&M Design Solutions
Rollformer:
Stramit
Cost/Land:
$300,000
Design/Build:
$350,000
Photography:
Paul Bradshaw

My inspiration

I am now well down the track of my life's work and architectural endeavour.

In the main it has been a stop/go operation in that I have ventured down many tracks in search of better systems of housing people; systems which are affordable for the general public.

From the inception of the Dobie House and through to the Quadropod, Tent House and Capricorn systems – all have utilised light weight steel for construction and created enormous interest and enquiry. The current Small House Series is being equally well received.

Our problem is retaining the integrity of the product and to this end we are now pinning our future hopes on the emerging Takeaway Series of factory prefabricated, transportable houses. These are completely steel framed and make wide use of flat galvanised and ZINCALUME® sheeting for both internal and external walls.

Gabriel Poole

BHPSTEEL

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