FLIGHTPATH ARCHITECTS
INVESTIGATOR COLLEGE
SENIOR SCHOOL

BAMFORD-ARCHITECTS
FOREST HILL
POLICE STATION

IN PROFILE:
KEVIN LOW
Steel Profile has an Editorial Advisory Panel to ensure that only projects of the highest calibre are selected for publication. The panelists are:

**FRANK STANISIC**

Elastic: Associates founder Frank Stanisic is a Sydney-based architect and urbanist. He works is fuelled by an enduring interest in the diagram and frame as a basis for architectural invention, and the aesthetics of permeability. Frank’s projects have won numerous awards including Australian Institute of Architects’ Special Jury, Wilkinson, Aaron Bolot and Frederick Romberg prizes.

**PENNY FULLER**

Penny is a partner at Silverwater Fuller, established in 2008. Silverwater Fuller’s first built projects have been recognised for their creativity and design sensibility. Penny’s work draws on experience gained across a broad range of international projects. She is a previous recipient of the Australian Institute of Architects’ Emerging Architect Prize.

**MATTHEW HYLAND**

Matthew Hyland works with Woods Bagot. He obtained a Master of Architecture from the University of Tasmania, and was awarded the 2015 BlueScope Glenn Murcutt Student Prize.

Having a preoccupation with enriching the environment, Matthew is continuing to develop and refine design processes through observation, research and experimentation.

**JOHN MARMARAS**

John Marmaras

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Melbourne’s Forest Hill Police Station is among the latest to turn the clock forward rather than back to the era of the local lock-up. The steel fin facade – Bamford-Architects’ signature design expression – offers so much more than the arrested development of bare, resolute box.

Words: Peter Hyatt  Photography: Paul Bradshaw (PMB); Peter Bennetts (PBB)
any suburban police stations are crimes of poor design. But hard and ugly needn’t be a pre-requisite for buildings that house a tough business. This is typically a type that is forced to appear institutional rather than extravagant as hero or villain.

Of course it’s not simply ‘crims’ as temporary occupants, but also officers who usually end up ‘doing time’ in such buildings. But every now and then a more enlightened example emerges to help light the way and provide a workplace more in keeping with modern-day policing. Bamford-Associates’ Forest Hill Police Station blends rigour with art to create a bold civic gesture and an uplifting environment in which to toil.

This new 24-hour facility – located adjacent to parkland on busy Springvale Road in Forest Hill – blends design strength and flourish. If an officer’s job requires apprehending criminals, the architect’s role is to apprehend function and elegance.

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Architect Barbara Bamford said she and her colleagues searched far and wide for references to guide the winning solution. “We certainly looked at lots of other police stations. We looked at everything through to Alvar Aalto’s Forest Pavilion (1939), which we were quite enamoured by. But it’s important to view those examples as inspiration, rather than direct cues.”

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Despite any preconceptions of being complicated and tied to a universal standard, she praises her clients for their willingness “to adopt almost every good idea we had”.

“They showed no fear – nor needed to,” says Bamford. “They backed us, and the project reveals the benefits of that belief.”

Of all the design constraints they faced, security topped the list. Rather than accept the default position of security as a non-negotiable absolute, Bamford proposed a building with a tough-ish shell and a soft, light-filled centre. The result is quiet, daylight-filled courtyards linked to workplaces that are fully engaged with a calm internal oasis.

Bamford says the project’s success can be found in its synergy with the adjacent parkland: rather than simply hammering an ill-fitting stereotype into the

ABOVE AND BELOW: Angled blades capture morning light and deflect hot afternoon sun, while enabling the added benefit of morale-boosting connections to bushland reserve

Panel says

This new police station in Melbourne’s east has a strong civic presence at a cost-effective price; thanks to the custom-folded cladding made from COLORBOND® steel, which provides a versatile language that allows for moments of openness and transparency. In another gesture of goodwill, the base of the building is embedded into its park-side location while the upper section cantilevers over the street. The obvious design clarity that underpins the folded steel facade is evident inside, too, where bright and welcoming public spaces and offices are naturally lit and connected to the landscape, via a series of clerestory windows and internal courtyards that run through the building’s length. The elegance of the carefully detailed and judiciously used cladding creates a crisp edge to the site, and imbues this important new community asset with appropriate strength and gravitas.
The pleated steel facade produces an animated, textured result.

The COLORBOND® steel has given us such a distinctive cladding profile that is so right for that job. It’s a huge part of the project’s success."

She explains the prototype steel profile grew and grew to the point where it finally bristled with the right appearance and environmental attitude. "When we started, the profile we were shown was called PointyClad and now its name has changed to SupaClad, so it’s a super-clad police station," she says.

The appearance of the newly minted SupaClad profile – with its feathered edge and shadow patterns – is especially elegant and striking. The dark and moody tones of the Ironstone®-coloured cladding may echo the deep bluestone walls of police stations of old, but used here with crisp, wafre style, the effect is of caped crusader.
This is an architecture that speaks of playfulness and rigour. Part light and part shade, Bamford delivers on the meaning and security where it’s needed. She describes it as: “A kind of jumping backwards and forwards between transparency and solidity.”  Ovvershadowed by the cladding’s multiple roles, it’s not simply a plain, dull envelope. It’s envirioning and responsive to passers-by whether in cars or on foot, whether staff or visitors.

“This was a real achievement,” she argues, “and one we could have lost given that high fencing is usually the default position for such facilities. We addressed the roadway for a civic presence and the result is more gatehouse, or pavilion within the park.”

The building also aimed to be a good neighbour rather than a dysfunctional one, so it is as open as it reasonably can be. Entrances Planning internally and ceiling glass all contribute to a light-box quality, surprising many visitors whose first glimpse is of a bristling, animated steel shell.

Bamford says the need for security is something that could very easily have suffocated the building, “but our aim was to liberate the design as much as possible.”

SP

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A design grounded for security with projections and apertures to invite sunlight and dusk deep into the building.
Innovative handling of structural steel and steel cladding by Nest Architects sensitively modernises and extends a treasured mid-century family home. 

Words: Verity Campbell Photography: Lauren Bamford, Paul Bradshaw, Jesse Marlow.
There is renewed zeal for mid-century design in Australia, aided by comedian Tim Ross’ recent documentary, Streets of Your Town, which screened on ABC television in late 2016. In it, Ross pays tribute to the spirit of optimism that fuelled the design and build of well-considered, affordable homes that were sensitively in tune with the landscape.

This 1960s home in Melbourne’s leafy Rosanna is a classic example of the era: light-filled, unadorned, surrounded by greenery and hidden from the street by a fabulous breezeblock garden wall. Bursting at the seams with two growing teens, the family was looking for an architect who could extend and modernise the home, yet respect its philosophical and architectural integrity.

Nest Architects’ adept handling of a previous mid-century home addition – with the challenging brief, “just don’t touch it” – reassured these clients that they could entrust their own gem to director Emilio Fuscaldo and his team.

Although there were similarities, the family’s brief to Fuscaldo allowed a little more wriggle room. “They wanted the home renovated sensitively, without it becoming a simple homage to mid-century architecture and interior design,” explains Fuscaldo. It was to be affordable, able to evolve with changing family needs, and to allow a varied, engaging occupancy experience. No one-trick ponies here.

To realise the project and accomplish the brief’s requirements, the use of steel was crucial. It was the one material, Fuscaldo calculated, that could help bring to life the clients’ trio of aspirations for the project: spirit of place, dynamism and affordability.

The design revolves around a sizeable two-storey central “core”, inserted into the existing floorplan, that houses a new kitchen and service areas on the ground floor, and two bedrooms for the teenage children upstairs. Structural steel and steel cladding sensitively connect old with new, ensuring the interventions are responsive and considered.

Holding up the first-floor structure above the kitchen, two angular structural steel columns in a V-shape form one corner of the room. Specified as 90mm circular hollow sections (CHS), their strength allows the kitchen to remain open to the expansive living areas while, without undue bulk, creating a sense of separation. “We wanted the connection between the ground floor and the first floor to be slender and slim,” explains Fuscaldo. “In my opinion steel’s the best thing to do that. It’s the most appropriate material for achieving forms that are slight and slender, yet really strong.”

Steel also plays a role in mediating the spaces, when moving inside to outside, from old to new. Black timber framework battens in the new kitchen link with the external cladding on the addition in what seems a single movement. Cladding made from COLORBOND® steel in Stramit Longspan® profile, in the colour Nightsky®, forms a simple steel skin teamed with areas of painted turquoise and undulating metal slat screens, a motif from

“We wanted the connection between the ground floor and the first floor to be slender and slim. Steel’s the best thing to do that”
“People think black tends to stick out, but when you have shadow-play on a facade, as this one does, black will recede the form.”

In this alteration and addition to a modest mid-century house in Melbourne’s northern suburbs, Nest Architects has skillfully used COLORBOND® steel in the colour Monument® to perform two distinct but equally important tasks. Firstly, from the street, the new lower-clad second-storey addition appears to float and recede into the established tree canopy, minimizing its visual impact above the original house and within the streetscape and neighborhood. From the back, however, the compound cladding imparts definition and a contemporary character to the new addition, and the wrap-around affect integrates new and existing fabric. The simple and understated interior contrasts with the steel exterior to create a refined domesticity. This is a clever blend of past and present, where each era accords respect and deference to the other, where steel plays a key matchmaking role, to bring them both together.

In this home, steel’s strength and versatility has enabled the achievement of the client-centric dynamism both architect and client were after: forging an architectural experience that slowly reveals itself over time. “We didn’t want our client to be in a rush to see the home reveals itself over time. At different times of the day, under different lighting conditions and from different angles, the building offers new perspectives and views. The screens are spaced such that the colour behind can be seen at certain angles and blocked out at other angles, heightening the feeling that there is a bit more to this simple building than first thought.”

Nest Architects also chose COLORBOND® steel for the exterior cladding for its appearance, and for its longevity and ease of maintenance qualities that were especially relevant for the second-floor addition. “We didn’t want our client to be in a position where they’d have to employ an overly rigorous maintenance regime on their house,” Fuscaldo says. The architects specified a contrast for the roofing, which is made from COLORBOND® Coolmax® steel in Stramit Speed Deck® 500 profile, in the colour Whitehaven®. The team was able to combine the material with insulated plasterboard, adding a touch of sustainability in the form of a cool roof without blowing their budget, says Fuscaldo.

“You’re proud of the fact that we were able to design a house that punches above its weight in terms of its look and feel, for quite a low budget,” he says. Fuscaldo credits the adaptability and strength of steel as instrumental to an innovative design that was achieved with current building practices. The casual, open, friendly and unfussy home has retained the character of a century house in Melbourne’s northern suburbs, blowing their budget, says Fuscaldo. “We’re proud of the fact that we were able to design a house that punches above its weight in terms of its look and feel, for quite a low budget,” he says. Fuscaldo credits the adaptability and strength of steel as instrumental to an innovative design that was achieved with current building practices. The casual, open, friendly and unfussy home has retained the character of a century house in Melbourne’s northern suburbs, blowing their budget, says Fuscaldo.

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Architect Kevin Low says there’s no point fighting nature; instead, he uses steel to handcraft design solutions that can work in harmony with it.

Words Rachael Bernstone
Portrait by Peter Bennetts
All other images courtesy of Kevin Low

In Malaysia, the prolific tropical landscape always attempts to colonise the pristine finish of newly completed buildings, according to architect Kevin Low. Plants and spores can take hold on surfaces of new structures, a condition he has chosen to embrace and accept as the norm, rather than to struggle against it.

“With the sun and water and humidity of our climate, things grow and die and decay at a phenomenal rate,” he says. “That wild process of wetness and growth creates certain circumstances which could be called context. In Malaysia, we build concrete that is absolutely awful, with honeycombing and all that, but it doesn’t catastrophically fail, and we have awful brickwork, but it doesn’t matter how bad it looks because everything gets covered over with a thick covering of plaster.

“We’ve got great carpenters who build really nice formwork, and wonderful welders – the steel guys I work with are really good – but this wild thing of accretion, this growth and decay on man-made surfaces is a really powerful thing in Malaysia. These are the things that I call ‘building culture,’” he explains.

Low was born in Malaysia and studied architecture, art and architectural history in the USA. Upon his return to Kuala Lumpur he worked with GDP architects for 11 years, before starting his own firm, Small Projects, in 2002. He now works alone on architecture projects, product design and master planning, a deliberate move that Low says “helps keep him honest.”

“Quite recently I learned that, for composers, the piano is the only instrument of choice because it can mimic every other instrument and the human voice,” he says. “You can’t get someone else to play the piano for you, and I feel that drawing is like the piano. I feel someone else to do the drawing is just.”
LEFT AND TOP: At the Aviary House, perforated steel was folded to create the trellis and rear of the staircase, that was hung from the walls using mild steel pins. The perforations allow light from the skylight above to penetrate to the lowest level of the home.

ABOVE LEFT AND RIGHT: The ‘onion valet’ – a set of perforated steel drawers – ventilates fresh produce, while the curved base of each drawer means the contents naturally roll towards the centre, making them easy to find.

LEFT AND RIGHT: Made using folded plate steel, the bench doubles as an access ramp and can be easily deployed as such when needed.

SP

architectural steel innovation

"When I’m producing steel work, I try to leave the workmanship of the contractors evident"
One of the very first projects to feature COLORBOND® steel Matt for wall cladding and roofing, Investigator College’s new Senior School in Victor Harbor makes an elegantly soft architectural statement in the small coastal town, with its understated form and robust materiality.

Words: Leanne Amodeo  Photography: John Marmaras
Victor Harbor has long been a favourite holiday and day-trip destination for many South Australians. The pretty seaside town, located on the Fleurieu Peninsula, is laidback and unassuming, with good surf beaches, charming tourist attractions and friendly locals. It’s popular during the summer months with families and groups of friends chasing cool respite and that feeling of getting away from it all, even though they’re only a 90-minute drive from Adelaide.

This new 2049 square-metre building at Investigator College is the third project to be realised as part of Flightpath Architects’ masterplan for the College’s campuses at Victor Harbor and Goolwa. The two-level structure was completed in early 2017 and occupies the otherwise vacant far south-east corner of the Senior School Victor Harbor campus. Its rear aspect takes in views of the bluff, but most importantly the building accommodates the entire senior student body, which was previously split across both campuses.

Steeled to overlook the oval and existing middle school buildings to the north, it’s the first thing parents and other visitors notice when entering the campus by the service road. Principal Don Grimmett and Deputy Andrew Paronzo hoped it would provide the College with a refreshed identity and it has. The building’s bold form is reassuring yet modern and sets the tone for an open learning environment based on collaboration, creativity, integration and communication. As Flightpath’s senior architect James Plunkett notes: “Don and Andrew were determined to showcase excellence in education and transparency; values evident throughout the entire project’s design.

This outdoor area also serves as a promenade to the new building, ensuring all eyes are on the Senior School. It does loom large in this context, yet its steel, timber and prefinished fibre cement exterior is thoughtfully modulated on this northern elevation by the ground floor’s full-height windows.

Not only do they allow for views of the oval and plaza, they sit outside in, extending the sense of connectivity.

Unsurprisingly, the brief’s programmatic requirements defined the Senior School’s form and the outcome is as logical as it is efficient. “It called for flexible, interactive spaces of varying sizes and specialises, interconnected with central circulation and breakout areas,” explains Plunkett. “We divided them into two sections, one for learning and the other for administration.” This division results in a T-shaped plan that locates the classrooms in the long rectangular part, whereas all the administrative spaces are housed in the hammerhead at the eastern end.

The glazed entry foyer separates each zone and while they’re discreetly differentiated by a change in carpet, the exterior’s demarcation is much more dramatic. Plunkett wanted the School’s administration, which includes the staff room, sick bay and senior co-ordinator’s room, to read differently to the learning area because of its prominent position at the site’s corner. It needed to make a statement and so he selected COLORBOND® steel Matt in Revolution Roofing’s Maxline® 340 profile, in the colour Monument®, for the hammerhead’s upper-level cladding.

It’s the first time this new COLORBOND® steel Matt finish has been used on a major Australian project and for Plunkett it was the premier choice for the job. “My preference was for the COLORBOND® steel Matt finish because it’s subtle, it absorbs the light yet attracts your eye and makes a statement.” Not only do they allow for views of the oval and plaza, they sit outside in, extending the sense of connectivity.

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lower level plan made from COLORBOND® steel Matt in a high level of detail with the cladding right: Plunkett and his team achieved upper level plan 2726 and blade walls evident in the building’s box windows.

“The natural subtlety of the COLORBOND® steel Matt finish is matched by the organic elegance of the spotted gum”

COLORBOND® steel Matt finish is matched by the organic elegance of the spotted gum,” notes Plunkett. “And this playful screen offsets the solidity of the hammerhead form.”

The non-shading device’s gentle undulations are articulated internally, where the walls of the ‘learning street’, on both upper and ground levels, are at seven-degree angles. According to the architect, this is the optimum angle to create usable space and to also allow for passive supervision via operable glazed walls. It softens the corridors and makes the classrooms on the northern side and the specialist food, science and art spaces on the south, seem all the more approachable, as does the fun zig-zag lighting in both upper and ground-level corridors.

Plunkett’s design creates a relaxed learning environment, informed by current pedagogies that prioritise collaboration. As a result, modular tables allow for different desk configurations and the operable walls provide flexibility. This more informal, less prescriptive scheme prioritises collaboration. As a result, modular tables allow for different desk configurations, and the operable walls provide flexibility. This more informal, less prescriptive scheme prioritises collaboration. As a result, modular tables allow for different desk configurations, and the operable walls provide flexibility.

The building’s hammerhead-shaped eastern end becomes the administrative spaces, with the staff room’s corner window providing views across the plains and out.

Although the plan’s two parts each have their own distinct identity, there’s definite cohesion between them. The timber battens of the learning zone’s upper-level shading device (at the front and rear) echo the verticality of the Rev-KlipTM 700 profile. While the cladovered timber screens’ exposed structural steel supports and facias visually balance the administrative spaces’ cladding. “The natural subtlety of the COLORBOND® steel Matt finish is matched by the organic elegance of the spotted gum,” states Plunkett. “And this playful screen offsets the solidity of the hammerhead form.”

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Weaving together contemporary education insights, careful siting, function-sensitive design and heritage components, St Columba’s Primary School offers a uniquely nourishing early learning environment.

Words Lorenzo Logi Photograph: Brett Boardman
From its inception, the development of St Columba’s Primary School was auspicious. Located on a generous site adjacent to St Columba and the Holy Souls Catholic Church in Sydney’s inner-west, the school is a few hundred metres from the head office of Sydney Catholic Schools (SCS), the organisation responsible for all of the Catholic Church’s educational developments in the Archdiocese of Sydney. As such, it was an ideal opportunity to showcase a new generation of schools that reflect the latest in pedagogical research and considered design.

Unconvinced by a first design response, the Head of Facilities at SCS approached Rachel Neeson of Neeson Murcutt Architects. Frances Stewart, Principal at St Columba’s at the time of the design and build, recalls that they were hoping to find “something a little bit fresh and different.”

“We had a pretty detailed brief,” Stewart says. “I had been to look at lots of schools, and in the back of my mind I knew what I was looking for. We needed the spaces to be very flexible so that the learning, for the diverse needs of the children, could be addressed by the spaces.”

SCS worked with principal architect Rachel Neeson and project architect Giles Parker to develop the design, exploring a handful of different concepts before settling on the final iteration. A central element in this was how the new build would interact with the existing structures, which had earned the architects’ affection. “I know that Rachel always loved the original 1928 building. It sat really beautifully next to the church,” Stewart reflects.

The resulting new build begins behind the existing structure and branches out to its side, retaining the height of the old building along its entire section while expanding the footprint. The dramatic ‘ceilingscape’ of the structure is the project’s architectural fulcrum. This roofscape made from COLORBOND® steel in LYASHT CUSTOM ORB® profile in the colour Manor Red®, relates school and church as an assemblage of pitches, creating a uniting thread across the project.

Designing the roof to both link separate structures and tilt and extend to accommodate the volumes within was a particularly challenging process. “It was mostly done on physical models,” says Giles Parker. “We were able to test that it wasn’t beyond the physical capability of the steel sheet. That was when we realised we were handling the material in a significant way, that all of the elements had to be worked out and that it was going to be an interesting build.”

“We needed the spaces to be very flexible so that the learning, for the diverse needs of the children, could be addressed by the spaces.”

OPPOSITE LEFT: Steepled awnings at the school’s main entrance evoke church roofs, and introduce a motif revisited in the interiors.

ABOVE: Expansive windows and an open layout create generous interior volumes, which can be sectioned off into discrete learning zones as required.

TOP AND BOTTOM RIGHT: Inside and out, the ceiling’s intersecting panes construct an intricate three-dimensional topography, uniting the school’s various structures and areas.
“The top and bottom of the roof are parallel,” Parker says. “But the length of the steel spans posed a challenge. The roofers initially had concerns that the edges might be slightly wavy.” Thankfully, challenging ideas often bring out the best in people and this example was no exception. Despite the significant demands imparted on the COLORBOND® steel, any preconceived misgivings proved unnecessary. Canny design and execution has yielded an exceptionally flat roof that is beguiling in its precision.

Reflecting on the choice of roofing material, Parker says: “I think we chose to do it for a number of reasons: we considered it to be a quick way to install the roof against the steel structure and provide a waterproof working environment; the fact that it’s a common material for this area, referenced the tin-roofed workers’ cottages that are all around; and it’s a very strong COLORBOND® steel colour that made a strong statement in a simple way.”

More practically, steel was a material that afforded the right combination of properties for the project, allowing ample space large enough for the planned spaces while keeping costs down. “Given the complexity of the geometry and the project budget,” adds Parker, “it could not have been done in any other way. In addition, there is a lot of glass, and particularly hanging glass. Without the steel frame it would have been very difficult to achieve the lightness.”

“Natural light, good ventilation, beautiful colours – that all plays into having a good learning environment for the children.”

Internally, the design focuses on the importance of having appropriate spaces that can be opened and closed as needs require. Facilitating this flexibility are ‘hero’ pieces of furniture that can also be moved and manipulated to fulfil different functions. You live with the latest ideas of education design internationally, as Stewart explains. “Workplace research talks about the importance of flexible spaces for children. Some are the days where the teacher is the expert and the teacher tells the child what to do,” she says. “We have people. You have to teach those children the skills needed to find information. That doesn’t have to be done sitting at a desk with a chalkboard in front of you. That’s just not used any more – natural light, good ventilation, beautiful colours – that all plays into having a good learning environment for the children.”

Parker interprets this from a design perspective, echoing the principles of age workspaces when he observes that “there’s a whole range of what’s called the ‘learning landscape’.

“Every space is a learning space: you don’t say that a classroom is where you learn and outside, you don’t learn,” he explains. “You can learn everywhere and children are able to learn in different modes – from individually, to small groups, to large groups. Spaces allow for a great variety of learning opportunities, in different sizes, in different ways. That was intrinsic to the project."

Consequently, the design replaces discrete classrooms with open learning spaces organised into three distinct zones – Stage 3 north, Stage 2 and 3 south, divided by an administration and staff area. Spaces become larger and more connected in relation to the ages of the children they host, allowing for closer supervision of the younger children, and greater freedom for the older ones. The learning resources centre (or library) is colour-coordinated to reflect the changing needs of the children as they progress through their education. “We’ve had an architect come in to look. We’ve had a group of teachers from Thailand. A big group from Brisbane come down. Everybody who comes through is blown away by it. They can’t believe how beautiful it is.”

But perhaps most telling are the words of the architects, when asked what his favourite aspect of the project is: “I was asked what your favourite aspect of the project is,” he says. “We like the height of the spaces. ‘Schools are not quite a public institution, but they are still an institution in a way,’ he says. ‘We should value such places with more space and more equality than a standard approach provides.’

The apparent simplicity of this big red roof— an ubiquitous in inner city neighbourhoods as the children’s school hats that are mandatory for outdoor play—is also characteristic of the quality of this project by Neeson Murcutt Architects in Sydney. Unlike the other red roofs in the area, though, this one— made from COLORBOND® steel in the colour Manor Red™— is carefully sculpted and folded to inject light and spatial delight into the rooms below. As well as providing shaded places for children to play to large expanses, the roof unifies disparate parts of the school, effectively incorporating the original school building. Most importantly, though, it creates innovative spaces for teaching and learning by forming the folded and pitched forms of its curving, and these create a comfortable and complex scale for the kids.
Two resort expansion projects featuring Troppo Architects’ signature light steel buildings make the firm’s unique architectural approach available to tourists who want to immerse themselves in Australia’s diverse landscapes.

Words: Rachael Beresford
Photography: Jamie Gill and David Haigh (Anbinik), Timothy Burgess (El Questro)
Australians who live in the country’s main population centres are often surprised when they travel to the interior, where they discover that the “outback” is not the singular, monotonous landscape of our collective imagination. From the Kimberley to the Gulf country via central Australia and the Top End, the only constant element is the sky, and even that can appear different each day, depending on your location and the weather. Many of us think fondly of the interior as the “sunburnt country” described by Dorothea MacKellar in *My Country*, but Australia’s most famous poem refers only to a small portion of our vast landscape. It fails to mention the central deserts (of which there are at least six defined types), the towering wetlands of the Top End that rely on annual fires for their continued renewal or the ancient rocky outcrops of the Kimberley, all of which lie far beyond the confines of the relatively occupied and cultivated state of New South Wales which MacKellar knew and loved. There’s no getting away from the fact that Australia is a big country, so vast in fact that there are few and varied locations. But for nearly 40 years architecture firms that have grappled with its varied landscapes have produced an array of building materials, composition, construction techniques and design. They have produced an array of building types, all of them tied together by a loosely identifiable ‘Troppo’ quality best observed in the openness of each building to its surroundings, regardless of the inherent challenges of each particular environment and in doing so capturing closed roads and air conditioning aren’t the only solution to deal with tropical heat. As residents of Darwin for 20 years who returned to their home cities of Adelaide and Perth respectively in 2002, Harris and Welke remain acutely aware of the different types of hot weather in Australia’s northern climates – from the oppressive ‘build-up’ in the Top End to the arid dryness of the red centre, and the worst of both worlds – the combination of soaring temperatures and high humidity that is common in the eastern Kimberley each December. As well as their skill at responding to varied conditions, Troppo designs take into account the skills and capacity of the local building industry, and the issue of ongoing maintenance in often remote locations. Their buildings usually employ elegant structural steel frameworks characterised by fine details: this paradoxically robust and delicate skeleton is essential to support the large yet lightweight parasol roofs that protect inhabitants from sun and rain, and the light and operable walls that capture and direct breezes through indoor and covered outdoor spaces. Troppo buildings are to maintain the comfort of their occupants regardless of the weather, but not at any cost. 

“...This all comes from Glenn Murcutt. He told us early on that: ’Thou shall have half-round gutters and sections of downpipes’, because there’s less friction in the flow of water through such things than in rectilinear forms” 

Following Harris and Welke’s move to Darwin and the establishment of Tropico Architects in 1981, the firm has continuously interrogated structure, detailing, materials, composition, construction techniques and design. They have produced an array of building types, all of them tied together by a loosely identifiable ‘Troppo’ quality best observed in the openness of each building to its surroundings, regardless of the inherent challenges of each particular environment and in doing so capturing closed roads and air conditioning aren’t the only solution to deal with tropical heat...
As keen architectural observers of the North’s changing seasons, landscapes, geology and the customs and habits of Indigenous Australian people, Troppo has amassed an unsurpassed body of knowledge over nearly four decades. Troppo buildings have readily been accessible to mainstream tourism – there are some exceptions such as the visitors centre at Kakadu National Park, created in association with Queen Monique, and hospitality projects in Darwin – but much of their work has been done for private clients. Now, with the unveiling of two resort expansion projects, the Troppo approach to experiencing the Top End is available to more Australians, albeit just for a short stay.

In 2016, expanded resort facilities opened at the rugged and remote El Questro Wilderness Park near Kununurra in Western Australia, and at Anbinik Kakadu Resort at Jabiru in the Northern Territory. These projects share some similarities: being in remote locations they were both designed as modular or prefab structures. “Both the projects are remote from the decent industry sources that we have in southern and eastern Australia,” Phil Harris says. “Anbinik is 250km from Darwin and El Questro is 100km from Kununurra, and remote places don’t always have the significant resources and specialist trade skills at hand to successfully build beautifully and differently.”

To some extent, the projects share a material palette, but they appear obviously different, which Harris attributes to variations in the landscape they occupy. “They are similar in that they both aim to respect the place in which they are built,” he says. “But the Kimberley is so much stone country, so we’ve drawn that up into the buildings through the siteworks and walls, whereas Anbinik by comparison is sand-plain country: it’s a place where you feel lighter and less grounded that way.”

Anbinik, which was formerly a self-catering caravan and camping park, is designed to include new ensuite accommodation, a cafe, pool and campsite. The arrival sequence starts at the car park, which mimics a dry savannah landscape and commons. The project was introduced to Anthony Op de Coul (at Granpian) as a modular approach to building. “Anthony makes all of his own sections – he folds and bends all of his structural members, be they lightweight studs or things you might call bearers or joists, or parts that seem to be both in one – to achieve strength in whichever direction the member needs. That means we can get pretty silky details, but he’s very lean with materials so it’s cost-effective.”

Achieving that level of finesse requires thorough prototyping, Harris says. “Anthony looks at our drawings and sees that we’re trying to work out how to do things on paper, then he does tests in 1:1 reality by trialling connections or profiles,” Harris explains.

In the colour Monument®. The resort’s pool – sheltered by screens made from sandblasted 3mm steel coil with plasma-cut motifs – is elevated and shaded by readymade 3m steel coir with plasma-cut motifs.

The new accommodation offering, known as ‘Anbinik Suites’, is arranged in duplexes within a tropical garden setting. They feature outdoor verandahs with daybeds, and bathrooms that open fully to private courts. Sharing the same material palette as the commercial spaces, they were constructed in Hercules, Victoria, by Granpian Homes.

“We were introduced to Anthony Op de Coul (at Granpian) so we put Anbinik out to tender, and he won it on price, but from the get-go we liked his openness to innovation,” Harris says. “We loved the fact that he’s from a furniture-making background, so he’s able to work through the finer details of a project, and we appreciated his ability to work with materials apart from those that often find their way into project housing: that sense of reality and durability were things we needed in this project.”

The materials for the Anbinik Suites – steel frame, steel cladding, roofing and soffits, and plywood and strand-board internal linings – were chosen for their suitability in the environment, Harris says. “They are built with hard-wearing materials for the conditions, and they have an earthy character. The topographic tropical dwelling has a steep-pitch roof made from hardly lightweight ZINCALUME® steel to run-off the rain quickly and in it also textural in terms of the CUSTOM ORB® profile for the roofing and cladding. And we’re pretty proud to be able to say that these little dovetails are plastoboard-free.”

Harris was particularly impressed by Op de Coul’s approach to prefab building. “Anthony makes all of his own sections – he folds and bends all of his structural members, be they lightweight studs or things you might call bearers or joists, or parts that seem to be both in one – to achieve strength in whichever direction the member needs. That means we can get pretty silky details, but he’s very lean with materials so it’s cost-effective.”

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Once again, the global hands and minds of Troppo Architects demonstrates the power that steel has to generate great architecture. Both of these resort projects display a level of ingenuity in their steel detailing and use of materials. It’s obvious that Troppo’s unique attitude to design and building continues to produce spectacular outcomes. In the Kimberley, the architects have paired mild steel with local stone to great effect, while at Anbinik, the delicate steel frame and steeply pitched roofs of the cabins create a form that we instantly recognise as the archetypal shelter for wet-tropics environments. It’s emphasised for Steel Profile to feature two projects by one firm in a single issue, but we ultimately couldn’t choose between those two recent offerings by architects who are clearly at the top of their game.

Harris attributes to variations in the landscape they occupy. “They are similar in that they both aim to respect the place in which they are built,” he says. “But the Kimberley is so much stone country, so we’ve drawn that up into the buildings through the siteworks and walls, whereas Anbinik by comparison is sand-plain country: it’s a place where you feel lighter and less grounded that way.”

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The Reception, Office and Cafe buildings feature elevated grand profile. Some internal walls are lined with perforated steel-framed walls and roofs are made from sandblasted 3mm steel coil with plasma-cut motifs.
"It's not the kind of investment you'd make for a one-off building, but when you are building 14 cabins it's worth putting in that effort up front."

The use of steel is essential to achieve the design objectives, especially in the Top End, Harris says. "In all of the buildings we do, the architecture doesn't exist without steel to neatly achieve the broad openings," he says. "The steel structure enables the walls to be filled at will, or in many instances to be filled with things that open and shut."

Steel offers other benefits too. "For instance, the verandahs at El Questro offer a great view, and the last thing you want is a lot of cross-bracing or extra structure to maintain rigidity, so we find that having that steel frame out on the edge is pretty important."

"Also, one thing that is difficult to achieve in the north is carry-on," Harris continues. "It's a skill that has diminished as steel has become the preferred wall-framing material, so in this case the steel offers the means to control and check out carry-on."

 Whereas the cabins at Arnhem house just above the ground, the accommodation at El Questro is firmly embedded in its rocky landscape, thanks to stone (locally sourced) and walls made from thin Mild Steel that anchor and provide privacy to each villa. Aimed at the premium end of the tourism market, these luxury retreats feature verandahs with an outdoor bath overlooking the Chamberlain River as it pours from a narrow gorge across a sprawling floodplain.

"Both sites are centred on nature-based and cultural tourism, and if you are going to get involved with the environment you have to shower outside, surely," Harris laughs. "It's about engaging with the environment if the dwelling overall is engaged with."

"In all of the buildings we do, the architecture doesn't exist without steel to neatly achieve the broad openings"
efficiency provisions of the building code which require seal-ability of buildings, and so they can seal, but they can also fully bloom-well open. That’s not cheap – that mixed-mode potential – but it’s there.

“I just find it disappointing in tourism accommodation, particularly when you are talking about nature- and culture-based tourism, that you would devise places to stay in that can only work with AC, to seal you away from that environment,” he says. “It’s just totally at odds with the purpose at hand.

“At both projects, we’ve installed louvres and broad openings for cross-ventilation, and the ceilings are detailed to relieve the rising heat: there is no compromise around the implementation of the principles of tropical design,” Harris asserts.

“But it’s a marketing requirement to have air conditioning. We’d love the day when a client said: ‘No air-conditioning is a basic principle of what we produce, so if you can’t cope with that, don’t come’, but I’m not sure that in a competitive tourism market anyone’s going to do that.

“It’s still a good investment, though, because good design leads to reduced running costs, which is not just about the power you are using at the moment, it’s also about the wear and tear on the [AC] equipment.”

“In all of the buildings we do, the architecture doesn’t exist without steel to neatly achieve the broad openings”

So ideally, the best way for coast-dwelling Australians to visit Troppo’s new resort projects is to embrace the experience, and to achieve the air conditioning. These projects have the capacity to expand our knowledge about our collective understanding of the Australian ‘outback’ in all its variety, and how we might comfortably and efficiently occupy this “wide brown land.”

For the architects, the projects represent the most recent attempt in their long-standing quest to distil the essence of Troppo Architecture into an affordable, transportable and efficient building product. This year the firm will launch its Trop-Pods, a prefabricated and modular building system, customised and made-to-order by Grampians Homes. The end-product of more than 20 years of experimentation, Trop-Pods are the logical next step to make Troppo’s considerable wisdom about appropriate design for Australian conditions available to a wider audience.

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