IN PROFILE:
HASSELL, COX ARCHITECTURE AND HKS ARCHITECTS, IN ASSOCIATION

MATTHEW THITCHENER ARCHITECT
NORTH AVOCA STUDIO

BVN
GOLD COAST SPORTS AND LEISURE CENTRE
EDITORIAL
Welcome to Steel Profile 129
We acknowledge that architects, designers and specifiers of every great building constantly walk the tightrope between new creative territories and commercial responsibility. So we are always genuinely excited to encounter projects that balance form and function, projects that provide a renewed sense of cultural identity and community, and those that are destined to re-inhabit our urban spaces.

Great buildings are at one at art and science, inspiration and discipline. To support the needs of the industry, we’ve been busy revamping SteelSelect.com.au – BlueScope’s product specification website – making it even more relevant for today’s professionals.

For anyone unfamiliar with SteelSelect®, it provides industry-recognized specification tools, resources and information to support specifiers’ commercial responsibilities, whilst also allowing the freedom and certainty to push into new, rich creative territories.

Whether you’re an architect, designer, engineer or project manager, SteelSelect® can make the process of researching, selecting and specifying steel products and construction solutions faster, easier and more accurate. It’s a one-stop-shop to support you, whether in the office or on-site. There, you can access product and technical information from leading Australian manufacturers’, handy tools, and project inspiration.

We encourage you to make use of this excellent free-of-charge resource so please ensure to bookmark SteelSelect.com.au

Finally, BlueScope is once again proud to be the Principal Corporate Partner of the Australian Institute of Architects and we are looking forward to the 2019 National Architecture Conference – Collective Agency. If you are attending, we look forward to hearing your thoughts on what is precious and how the industry can collectively empower and improve our urban spaces.

FRANK STANISIC
Editor
Steel Profile has an Editorial Advisory Panel to ensure that only projects of the highest calibre are selected for publication. The panelists are:

PAUL BRADSHAW
PAUL BRADSHAW is a Principal of Jackson Architecture and is based in Melbourne. Paul is an Associate Professor of Architecture at RMIT University and has been invited to judge several national and international design awards. Paul published *A New Urban Autonomy* (2010) and is known internationally for his work in visualising architecture.

FRANK STANISIC
FRANK STANISIC is the founder of Wilkins, Wilkinson, Stanisic and Partners. Frank has been a prolific contributor to the architectural profession, with his path forewarning Australian architecture. Frank’s work has been awarded for its humanity, creativity and sustainability.

JEN JENKINS
JEN JENKINS is the founder of Jen Jenks Design Studio. She is an Adjunct Professor at the University of Sydney, where she teaches critical design. Jen has worked on a number of award-winning projects, from small private houses to large-scale cultural institutions.

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WENDY KENNEDY
WENDY KENNEDY is the founder of Kennedy Nolan. She is an Adjunct Professor at the University of Sydney and has been awarded for her work in urban design and architecture.

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A challenging site was the genesis of this studio in the sky – wrapped in cladding made from COLORBOND® Ultra steel in LYSAHT SPANDEK® profile, in the colour Monument® – which perches on slender steel ‘branches’.

Principal/Corporate Partner


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To determine the most suitable material for your project, please contact your supplier or see steel.com.au. For information about product maintenance, including painting specifications, please visit BlueScope.com.


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MIDAS TOUCH

Architects BVN worked closely with BlueScope and Kingspan to create cladding panels made from COLORBOND® Metallic steel with tones and colours befitting of a building that evokes sporting excellence, and captures the Gold Coast’s essence.

Words Leanne Anoces  Photography Cieran Murphy; Paul Bradshaw (PMB); Peter Taylor; Paul A. Broben
For many people growing up in Australia during the 1980s, the Gold Coast was at the top of their family holiday wish list. Queensland’s second-largest city experienced a tourism boom 30 years ago and the industry is still thriving, fuelled in part by events ranging from the annual V8 Supercars Gold Coast 600, Magic Millions Horse Racing Carnival, Australian Surf Life Saving Championships and Gold Coast Marathon. The recent biggest event was the 2018 Commonwealth Games, being held in April of that year and the Australian teams did the country proud by topping the medal tally with a record total of 280, of which 80 were gold. As is the case with any international multi-sport event, the city’s existing sporting venues were revamped and a number of new venues built in the lead-up.

The Gold Coast Sports and Leisure Centre was designed as a new venue for the 2018 Commonwealth Games and still functions as an integral part of a key sporting precinct. No stranger to the sports and recreation sector, having designed major projects such as the London 2012 Olympic Athletes Village and 2008 Beijing National Tennis Centre, BVN was engaged by its clients in 2013 to develop the masterplan for the precinct surrounding Metricon Stadium – where the Games’ opening ceremony was held – in Carrara. Most significantly, BVN was tasked with delivering the site’s new Gold Coast Sports and Leisure Centre (GCSETAF) as the event’s badminton, wrestling and weightlifting venue. The building had to also co-locate the new Gold Coast Suns Elite Training and Administration Facility (GCSETAF), which made good sense seeing as Metricon Stadium is the AFL club’s home ground. Consequently, BVN had a few stakeholders to consider along with three different clients: the Gold Coast 2018 Commonwealth Games Corporation, Gold Coast Suns Football Club and the City of Gold Coast.

Their brief for the new multi-purpose space was therefore not only to provide an international-standard sporting facility specifically for the 2018 Commonwealth Games, but also to ensure the building could be used by the community and other professional sporting groups (particularly netball and basketball) after the Commonwealth Games concluded. Incidentally, BVN was also responsible for saving the adjacent Carrara Indoor Sports Stadium (CISS) from demolition, convincing the clients that its refurbishment would be of more long-term value to the community than erecting a proposed temporary Games facility.

The Gold Coast Sports and Leisure Centre was designed as a new venue for the 2018 Commonwealth Games and still functions as an integral part of a key sporting precinct.
The GCSETAF sits clad in Kingspan BENCHMARK Evolution insulated wall panels made from COLORBOND® Metalex steel in custom colours Copernicus® and Copper Penny®, making this elevation particularly striking.

BVN’s masterful command of planning is evident in the overall configuration, expressed as a series of simple stacked volumes that belie the facility’s programmatic complexity.
the GCSLC’s colour palette that undeniably embeds it within its lush setting and speaks to the Gold Coast’s image as a confident, laid-back city appreciated as much for its lively culture as for its natural environment. The architects incorporated green and taupe accents on the street’s upper level walls as a reference to the hinterlands beyond the southern plaza. And a tile mosaic on the mezzanine floor’s 2400mm band twinkles with flecks of yellow and gold in a sun-and-sand homage.

This luminous scheme continues through to the GCSLC’s external wall cladding, comprising two types of Kingspan insulated wall panels: the flat panel BENCHMARK Evolution and also KS1000RW Trapezoidal-profiled panel. These panels are comprised of an insulation core, finished on both sides with steel cladding. In this project’s case, the exterior cladding is predominantly made from COLORBOND® Metallic steel in the custom colours Carrara Gold™ and Temple Gold®, as well as Copernicus® and Copper Penny®.

It makes this northern elevation particularly striking, ensuring it has its own identity and acts as the building’s gateway, yet ties in tonally with the GCSLC. For Buffington, the appeal in using Kingspan panels is that they have a refined simplicity that complements the project’s minimalist materiality. It is also not lost that it’s a practical, low-maintenance product. “We selected the Kingspan wall panel because it can produce an external and internal finish as well as insulation, all in the one system. We didn’t have to do an extra build-up and because we were able to work with BlueScope’s Specification Team and Kingspan to customise COLORBOND® Metallic steel colours, we didn’t have to think about sourcing extra cladding or worry about painting finishes."

BENCHMARK commercial director, Roof & Wall Panels, Kingspan Insulated Panels, Niall Horgan, says his specification team was heavily involved...
with the project, from the early sketch design phase through to on-site installation. “We worked closely with the architect BVN in relation to product selection, available finishes through BlueScope, detailing, thermal performance and fire compliance,” says Horgan. “We also worked closely with the builder, Hansen Yuncken, on ensuring the structural steel frame was suitably designed for our product and that the program was met.”

The building’s predominant colour – Carrara Gold™ – is symbolically linked to first place in high-level sports competitions. It was mixed for this project by BlueScope’s paint laboratory technicians and suppliers to the architects’ exact specifications. A beautiful photo of a Gold Coast sunrise was used to select a specific shade from. After going through 15 different shades, one was settled on and BlueScope created a Carrara Gold™ sample.

The buildings’ roof is made from 80 tonnes of COLORBOND® Coolmax® steel, only available in the colour Whitehaven®. It may not be visible from ground level, but this cladding is working hard to help reduce internal temperatures on hot days – which is of added importance in the halls during training sessions and games. COLORBOND® Coolmax® steel in the colour Whitehaven® is an ideal material for large commercial roofs as it is scientifically designed to provide high solar-reflectance and thermal emissivity. Highly solar-reflective cool roofing material such as COLORBOND® Coolmax® steel can help lower active cooling energy costs and reduce the urban heat island effect by minimising heat absorption.*

To aid in passively cooling these areas, the architects have arranged them out in a number of vertical spaces and in this regard, the halls differ to many other sporting facilities because they are so light and airy.

All-in-all, 213 tonnes of purlins and girts made from GALVASPAN® steel and supplied by Metroll, plus 213 tonnes of XLERPLATE® steel was used to help efficiently achieve the project outcomes. Case-in-point being the insulated truss system that includes a complex truss joint at the peak of the roof where 18 different steel members come together in that one location.

The use of cladding made from COLORBOND® Coolmax® steel in the custom colour Carrara Gold™ at this venue couldn’t have been more fitting for the Commonwealth Games and well after the event has finished, it still stands iconic.

Whilst the building’s colour palette may appear aristocratic and ostentatious, it’s tempered by a thoughtful plan, fine detailing and highly resolved spatiality. This is a virtue of which the Gold Coast is very proud and whilst it was newly designed to be a multi-purpose facility, its obvious popularity has even surpassed the architects’ expectations.**

**Any savings and or the extent to which a building is cooler may even exceed those projected for the building, including building footprint, level of insulation, location of air-conditioning when necessary, building depth, building height and material characteristics.

For more information about potential savings visit:  www.epa.gov/heatisland/about/index.htm

For more information on urban heat island effect visit: www.steel.com.au/coolmaxcalculator

*For more information about potential savings visit: www.ibec.com.au/findoutmore.png

**For more information about potential savings visit: www.epa.gov/heatisland/about/index.htm

The rational organisation of this new sports building – which comprises halls, admin functions, changerooms and meeting rooms that are arranged off an internal ‘street’ – creates a simple legibility for its large and complex program. Completed last year for the 2018 Commonwealth Games, it’s now a public facility for local residents. This design makes a tongue-in-cheek comment about local culture with its insulated Kingspan wall panels with cladding made from COLORBOND® Metallic steel in the custom colours Carrara Gold™, Temple Gold®, Copernicus™ and Copper Penny™. The cladding has been beautifully arranged to achieve horizontal and vertical structural variations that break down its scale and bulk to transform it into a building that might otherwise be viewed as a large ‘decorated shed’.

The building’s predominant colour – Carrara Gold™ – is symbolically linked to first place in high-level sports competitions. It was mixed for this project by BlueScope’s paint laboratory technicians and suppliers to the architects’ exact specifications.
From the outset, Optus Stadium’s architects and associated firms were acutely aware of, and in agreement about, the need for the project to make a tremendous, majestic impression. “We were in one of the opportunities, because the stadium was clearly going to be a landmark and we were conscious that it was a big responsibility,” says Peter Dean, director at HASSELL’s Perth office. Also based in the Western Australian capital, Matthew Batchelor of COX Architecture says that the “rare opportunity” to work in their home town meant everyone pushed hard to win the project. COX and HASSELL had worked together on the Adelaide Oval Western Grandstand Redevelopment project (see Steel Profile 102) and, in many ways, the new Perth stadium was a natural evolution. “That project went down really well, and we wanted to go the next step,” says Batchelor. The project combined high ambitions with a raft of complexities to be tackled. Working from a steel perspective, it allowed the workflows to go straight from the architect, through the engineers and into fabrication as a singular process.”

“From a sports perspective, the stadium was a great opportunity to bring some of our international learnings to the project, particularly from the fans-first perspective,” says Batchelor. “Sporting stadiums are fighting to get people out of their armchairs, because it’s very comfortable at home with those great TVs, so how do you make the experience better than that?”

Renowned for its work on AT&T Stadium, the home of American Football team the Dallas Cowboys, HKS Architecture knows how to elevate stadium design and experience – as evidenced by that stadium’s amazing steel arches, hotel-like interiors and multi-million-dollar art collection. “Anything that adds to a quality experience for fans leads to fans-first,” says London-based Paul Hyett, director of sports at HKS. “We brought in HKS to challenge us and push our knowledge – all these Super Bowl experiences where it goes to the other end of the spectrum, where it becomes about the technology and hospitality,” says HASSELL’s Dean. HKS’ Hyett was similarly enthusiastic about the partnership. “We knew we were working with one of the most advanced hospitals in the world,” he says. “HASSELL’s Fiona Stanley Hospital is one of the most advanced hospitals in the world. Hyett says. “HASSELL’s Fiona Stanley Hospital is one of the most advanced hospitals in the world.”

For Batchelor, one of the best expressions of the collaboration in the 400-metre-long Community Arbour, which features dramatically curved steel members, was an architectural or a landscape piece, Batchelor says the eventual consensus was that it is just a collaborative piece that blurred the boundaries.”

“Working from a Building Information Modelling (BIM) platform meant the collaborative mindset extended beyond the design phases through to engineering, fabrication, construction and, finally, into the maintenance phase. ‘We referred to the model as the single point-of-truth,’” continues Dean. “From a steel perspective, it allowed the workflows to go straight from the architect, through the engineers and into fabrication as a singular process.”
The collaborative process was further bolstered when the team commissioned Paul Finch, journalist and head of the World Architecture Festival, from the UK to act as peer reviewer. “For such a big project, we decided to get someone from the international stage, with independent eyes to challenge us and make sure that we are investigating everything that we should be,” says Dean.

A longstanding friend, Paul Hyett, says Finch pushed the team to make the most of the site. “As a design critic, Paul has seen some of the largest, most complex projects in the UK,” Hyett says. “His capacity to see projects as a simple diagram is invaluable. He always asks: ‘How can it relate to the site, to the rest of the city? Can you find your way in and through it? Is it ordered?’”. Such simple, but demanding questions required the team to clearly articulate their priorities and, as Hyett says, “To make sure our basic building diagram was simple and straightforward.

“You can have great richness to an architecture through complexity, but it needs to be within a simple framework, otherwise you’ve got chaos.”

The many people using the stadium and parklands on a daily basis is, for Batchelor, evidence of the project’s success: “Before, you’d just drive straight past but now it’s a new destination that connects to the river and surrounds,” he says. Dean laments the conclusion of a project that is groundbreaking on so many levels. “It probably is a once-in-a-lifetime opportunity, which in some ways is depressing to contemplate if that’s my last job – I’m only 44!” Dean says, with a laugh.

In Melbourne, COX and HKS have again teamed up to lead the redevelopment of Melbourne’s Rod Laver Arena, while HASSELL’s work on large-scale steel projects of civic significance builds off knowledge gained from Optus Stadium.

Presently working on stadiums in China and Japan, Hyett remains appreciative of his Perth experience. “I believe in relationships between firms and I’m sure we’ll do many other things with HASSELL and COX. We got so much pleasure working with great architects in a great sporting nation. I hope we win more projects such as that.”

SP
Galileo said: “Wine is sunlight, held together by water” but it’s fair to say that some wines have a bit more sunlight than others. And whilst there are plenty of vineyards held together by steel, this new cellar door – sporting a soaring cantilevered ‘fly’ roof made from 3.8 tonnes of ZINCALUME® steel – sets a new standard for the type through material ingenuity and daring design.

Words Micky Pinkerton Photography Tom Ferguson
Bob Derrick knows a thing or two about wine. Over an eclectic career, which included 30 years as a teacher and running a couple of travel businesses with his wife, Jennifer, there has been the constant thread of his passion for wine-making. He taught the first course in viticulture in New South Wales at Mudgee TAFE in 1974 and studied wine science in Wagga Wagga in the 1980s. A long-held desire to own a vineyard was finally realised in 2009 when he and Jennifer bought five acres with over 6000 established vines located about ten minutes’ drive from Orange. Since then Montoro has prospered, winning numerous awards for its cool-climate reds.

With that success, however, came new challenges. An electronic sales model suited the early stages of the business, but with the growth of wine tourism in the region and Montoro’s point-of-difference as having the only local Shiraz vines, a steady stream of intrepid enthusiasts began to seek them out. Without a retail outlet, this saw cars heading down the driveway and people anticipating a tasting, literally in the Derrick family home.

Which is how one day, this pragmatic yet personable man walked in off the street into Source Architects and said: “My name’s Bob and I need a cellar door.”

The brief was simple: a tasting area to showcase the wines, a bit of office and storage space, and no, they weren’t going to be selling food. In terms of style, the Derricks didn’t want a shed, the dominant winery typology in the area. They were looking for a building that was visible from the road, had a distinct presence and which reflected the premium brand of Montoro Wines.

Sally and David Sutherland, having established Source Architects in Orange in 2014 after working for large practices in Sydney for more than a decade, were excited to be working on their first local commercial project, despite the challenge of developing a non-shed concept on a shed-like budget.

They took their initial design cues from the social meanings of wine. “If you’re selling and drinking wine you are bringing people together,” says Sally Sutherland. “The Australian approach to gathering people is that you create a veranda – it’s not a brand-new idea but it’s been used time and time again, and it works. The veranda and the platform meant we could stretch that indoor-outdoor relationship to allow people to gather.”

The building’s concept of a broad base protected by a large cantilevered roof made from ZINCALUME® steel in Fielders ARAMAX FreeSpan profile has used the material to its maximum span across the portals.
but isn’t a home. It has a certain flourish to it, like the brand’s logo, but isn’t fussy. And it is definitely eye-catching from the road, inviting further discovery.

“People don’t know why they like it but when they walk on site and take that pause moment – that’s when you know the architecture has done its job,” says Sutherland. “The roof makes a statement but the proportions are right, it’s understandable, it all just works together thanks to the simplicity of the verandah idea.”

Key to that idea is the large cantilevered roof made from ZINCALUME® steel in Fielders ARAMAX FreeSpan profile. Readers of Steel Profile may recall the material’s many benefits. It can allow for huge spans without the use of purlins resulting in a cleaner, lean appearance and it can be quick to install – permitting reduced construction timeframes. They may also have read how it often arrives on site as a huge roll of flat metal sheet which is then passed through a series of rolls, formed into profile and becomes rigid when sheets are fixed to one another.

“The material almost dictated the design – one couldn’t go without the other, it’s all in conjunction with the statement of the really big cantilever at the end.”

Source Architects knew from the outset that the ARAMAX FreeSpan profile was going to achieve the big span they were after, across just two steel portals.

“The ARAMAX FreeSpan profile gave us that big span, that big statement,” Sutherland continues. “We’ve used it at its maximum across the portals and the overhang so we’ve used the material to its fullest potential, which was really important in the design. The material almost dictated the design – one couldn’t go without the other, it’s all in conjunction with the statement of the really big cantilever at the end.”

Whilst the building was designed with Fielders ARAMAX FreeSpan profile in mind, it was the first time Source Architects had specified it. The material is often used for considerably sized roof expanses in metropolitan markets, but this project was of a more modest scale and in a regional location which introduced some logistical planning. Roll-forming the ARAMAX FreeSpan profile in Sydney and then transporting to site would have required an escort over the Blue Mountains.

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PANEL SAYS

This small and clever pavilion uses roofing made from ZINCALUME® steel to great effect. The material’s strength and character lend gravitas to the modest footprint, helping to draw the attention of passing traffic and providing a bold identity for this boutique winery, located near Orange in New South Wales. In the past we’ve reassembled at the winery. Montoro Cellar Door CLIENT Bob and Jenny Derrick ARCHITECTS Bob and Jenny Derrick PROJECT TEAM Sally Sutherland, David Sutherland, Sam Roberts STRUCTURAL CONSULTANT Cook & Roe Engineers BUILDER & CLADDING CONTRACTOR ICR Engineering, in Fielders ARAMAX FreeSpan profile at steel fabricator ICR Engineering’s site, in advance. The spans were pre-fabricated under cover, with all services integrated, to avoid the delays associated with construction during a rainy Central West winter. That still presented the issue of transporting the steel roofing from ICR Engineering’s shed in Blayney, to the vineyard thirty minutes away. Sally Sutherland only has words of praise for the builder, ICR Construction, and steel fabricator ICR Engineering who worked closely with Source Architects to overcome the difficulties associated with moving and then re-assembling the material.

PANEL SAYS

This small and clever pavilion uses roofing made from ZINCALUME® steel to great effect.

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This small and clever pavilion uses roofing made from ZINCALUME® steel to great effect.
This multipurpose residential studio – wrapped in cladding made from COLORBOND® Ultra steel in LYSAGHT SPANDEK® profile, in the colour Monument® – perches assuredly on slender steel "branches" that let it reach out into the air.

Words: Rob Gillam  Photography: Bob Saary; Paul Bradshaw; Keith McInnes
Owner, Tony Palmer, says that when he and wife Danielle bought the Central Coast property as a holiday house, he had an inkling that they might one day take more permanent advantage of the panoramic view over the suburb and South Pacific Ocean from the site’s steeply sloping rear border. “At first, the rear of the site seemed pretty useless,” says Palmer. “But I climbed up there to find it captured more views than I expected.”

Enjoying their holiday house one Sunday and reluctant to re-join Sydney’s rat-race, the couple discussed making a life change. “We thought maybe we had things the wrong way around. We wanted to create a lifestyle for ourselves that felt like we were on holidays all the time. We didn’t need to be in Sydney any more, so we sold our business and made North Avoca our full-time home.”

With both Tony and Danielle working from home in creative industries, they soon found need to emancipate house from office. “If you’re working in the place you live, you feel like you’re more often on your computer or phone, than on holiday,” he says.

“I had a little office tucked under the house but it was like a shoebox. It had no aspect and was hot in summer and pretty horrid in winter. Before contacting Matt Thitchener, I was talking to agents about buying office space. The studio ended up costing about the same as a small office in Gosford, but I’m so glad we did it this way. Building a studio specific to our needs has so many advantages.

“I’m an advocate for sustainability and sometimes that’s not just about a building’s fabric but how you use it and the things you’re not doing. My commute to work is now 36 steps.”

Did he ever think such an impressive and substantial architectural achievement was possible on the site? “No, we knew the challenges we faced with such a heavily sloped block. And with only 900mm-wide access, we had no ability to bring machinery onto the hill. So I went into it knowing the idea might not be feasible. Luckily, Matt saw it as a challenge that could be solved by gutting it up off the ground and into the air.”

Matt Thitchener concurs. “I don’t mind difficult sites because it drives the creativity and guides the outcome,” says Thitchener. “My father is the engineer for this project and I had worked for him previously, before I got into architecture. We always like pushing boundaries and trying to do interesting things, structurally. I’m always looking to do something clever and sublime.”

Architect and client were pondering solutions when the core idea was born of a ‘box’ resting its back on an off-form elevated concrete beam, supported in the middle by a steel frame made from steel. But first, they had to dig 13m deep.

Initial signs from the geotechnical survey indicated bedrock might be only a few metres away – “I think they hit some floating rocks,” says Palmer – but we eventually found it at 6-7.5 metres below ground level.

All four piers had to be dug out by hand, with bucket and spade. “We had two guys and they were so far down we lost sight of them,” says Palmer. “There’s basically a double-axle truck’s-worth of concrete – 6 cubic metres – in each pier.”

Knowing that such effort and expense was a possibility, Thitchener adapted his design early to minimise the number of piers necessary and devised the structural supports, or piloti, made from 89.9mm
circular hollow section (CHS) steel. “The piloti were always going to be made from steel. It’s the natural choice,” he says. “Once you reach a certain span-size it doesn’t make any sense to attempt construction with other materials. “Size-wise, you aren’t going to get the slenderness that steel has out of timber, and concrete would have been just too heavy.”

Thitchener put his steel piloti design through the engineering modeling process and discovered there was the potential for the CHS to be thinner. “But we decided that wouldn’t look a little bit too thin. Aesthetically, I preferred the wider 89.9mm-diameter selected, for a stronger appearance. That also allowed for more room to fit all the plates and bolts at the end.”

The CHS piloti also provide cross-bracing for the overall structure, resulting in a clean aesthetic. “As we just used simple vertical columns, we would still have needed lateral cross-bracing in between them and it would have been much busier underneath,” he says. “It was just a better way of doing it, structurally, for the rigidity of the building and was so much simpler in construction. We were basically building a small space-frame.”

Sitting atop each pier footing is a circular 200mm-thick custom-made steel base plate with cleats connecting the CHS piloti. Another cleat at the top of each piloti connects it to one of three main steel floor bearers running front-to-back. The floor bearers are 310mm universal beams concealed within the floor space – one running through the middle and one under either side of the building. These are connected by 89.9mm CHS and 180mm UB tie beams that span side-to-side. All the connections are pinned together.

“Size-wise, you aren’t going to get the slenderness that steel has out of timber, and concrete would have been just too heavy.”

Sitting atop the universal floor beams are vertical columns made from rectangular hollow section (RHS) steel and square hollow section (SHS) steel that support the roof structure and the cantilevered awnings. A long-span universal beam supports the roof trusses over the sliding doors, and another smaller universal beam supports the roof trusses at the heel end.

All structural steel was prefabricated for speed-of-installation and craned onto site. “We had to lift from the street, up over the powerlines and the house, to start building our working platform,” says Thitchener. “In a single day, all the scaffolding was erected and the main structural steel frame bolted together.”

Palmer says he was immediately taken with the view from the in-construction studio. “Pretty much as soon as the frame went up and a floor was on, I walked out onto that platform and thought ‘Wow! I knew we had something special.’

With structure and insulation complete, the studio was finished with wall cladding made from COLORBOND® Ultra steel in STRAIGHT SPANDER® profile, in the colour Monument®.
The studio is accessed via a detached industrial stair case made from galvanised steel, which ties in visually with the CHS piloti. Ascending, the intricate geometries of the piloti come sharply into focus, as does the meticulous detailing of the soffit and the perfect alignment of the LYSAGHT SPANDEK® profile. The walls, made from COLORBOND® Ultra steel in LYSAGHT TRIMDEK® profile, in the colour Windspray® for its lower solar absorptance than the darker-coloured Monument®.

The building envelope is completed with roofing made from COLORBOND® Ultra steel in LYSAGHT SPANDEK® profile, in the colour Windspray® for its lower solar absorptance than the darker-coloured Monument®. The wall cladding made from COLORBOND® Ultra steel in LYSAGHT SPANDEK® profile, in the colour Windspray® was chosen for its low-line degree pitch for gathering rainwater – used to irrigate the forage machines planted under the studio – and the colour Windspray® for its lower solar absorptance than the darker-coloured Monument®.

The building envelope is completed with roofing made from COLORBOND® Ultra steel in LYSAGHT SPANDEK® profile, in the colour Windspray® for its lower solar absorptance than the darker-coloured Monument®. Virtualising the entire 60-square-metre roof is covered in solar panels which generate enough power to comfortably run the studio and also the main residence, with excess electricity being stored in a battery.

The studio recedes into the background. No matter how violent the weather conditions, though, the studio never waivers. “It’s an incredibly stiff structure. You walk around on the floor up there and it just feels so chilly. We’ve been there in the middle of the most brutal storms and there’s no movement in it, at all. It’s just an absolute pleasure.”

The internal detailing is also chosen with maintenance in mind. “That was a primary consideration,” says Thitchener. “We didn’t want something that we were going to have to keep painting every few years. Steel is just much easier to look after. With COLORBOND® steel, it can be as easy as hosing it down to keep it in condition. There is also decent access to reach the soffit from below and wash it down with a soft brush and detergent.”

Thitchener says the colour Monument® was chosen to clad the studio to help it recede into the background. “We considered other colour options but in the end we didn’t want to draw too much attention to the building. We decided it had to go with a darker colour which helps hide it away. It’s quite effective: people don’t tend to notice the studio unless you point it out to them.”

Cladding made from COLORBOND® Ultra steel was also chosen with maintenance in mind. “That was a primary consideration,” says Thitchener. “We didn’t want something that we were going to have to keep painting every few years. Steel is just much easier to look after. With COLORBOND® steel, it can be as easy as hosing it down to keep it in condition. There is also decent access to reach the soffit from below and wash it down with a soft brush and detergent.”

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On the site of a former Aboriginal mission, this new health clinic by Kaunitz Yeung Architecture is a beacon that tells the story of the community’s journey towards self-determination.

Words: Rachael Bernstone  Photography: Brett Boardman
It is possible to read the history of the Biripi Aboriginal people since European settlement of their lands – centred around Taree on the New South Wales mid-north coast – through the evolution of their health facility buildings. Designed by Kaunitz Yeung Architects and completed in 2017 the Biripi Health Clinic is the proud centrepiece of a newly created ‘health campus’, which once built will narrate the community’s history. The new building has been carefully inserted amongst three existing structures – one of which has been transformed into a gallery – and together these pieces relate the story of the Biripi Aboriginal people since European settlement of their lands.

This small and inexpensive building packs a lot into its complex program. During early consultation with the clients and community, the four main expressed requests were that the building should incorporate stories from history and local artwork, and that it should include light-filled spaces and an outdoor waiting area. The brief also encapsulated bold ambitions to improve the health and wellbeing of local people by expanding their access to and usage of healthcare services.

The new structure connects with two existing buildings to form a cohesive health campus, which stands proudly on the site of the former Purfleet Mission. The mission’s first dedicated healthcare facility was a clinic for mothers and babies – a simple timber cottage built in the 1950s following advocacy by the Purfleet Advancement League. That project emerged against a backdrop of racism in the local health system, including segregation practices at the local hospital. That baby clinic was still in use as an admin building until 2017 when this project commenced, and has been repurposed into a gallery that describes how advances in healthcare have been a crucial part of the Biripi peoples’ journey towards self-determination.

A major step in that journey occurred after the ‘paternal oversight’ of missionaries and the station management started to break down in the 1970s. In 1981, local Aboriginal people incorporated the Biripi Aboriginal Corporation Medical Centre to plan for and provide health services to their own population.

The Corporation was responsible for construction of the second project on this site – two simple buildings arranged in an L-shape – that were completed in the 1980s and remain in use as clinic and public health facilities. This third project – again commissioned by the Corporation – benefited from the input of Kaunitz Young, an architecture firm based in Sydney that specialises in architecture for indigenous clients around Australia and others.

The brief encapsulated bold ambitions to improve the health and wellbeing of local people by expanding their access to and usage of healthcare services.

The integrated artwork performs several functions: it tells the story of the local community, invites people to enter the building, and provides security at the entrance.

ABOVE: Biripi Health Clinic entry screen local artist, Eden Davis.
Throughout the South Pacific region, founded by husband-and-wife architects David Kaunitz and Ka Wai Yeung in 2012, the firm builds on Kaunitz’s earlier practice in London – where he ran a firm that delivered large public projects for five years – and subsequent post-disaster relief work in the Solomon Islands and The Philippines, amongst other places.

Kaunitz Yeung Architecture began working with the Biripi Clinic when this project was just a bold ambition. “Like a lot of these projects, we get on board early to help the clients do their funding applications, by undertaking pro bono work with the hope that they win funding to go ahead,” architect David Kaunitz explains. “In this case we prepared schematic drawings, visualisations and timelines, to make the proposal more professional and rigorous, because health centres don’t have that type of expertise in-house.”

“One day they received the first grant for a new training room with a funding allocation of $300,000; they saw an opportunity to work further funding,” he says. “Together, we then obtained funds for new consultation rooms for visiting specialists, which the corporation matched dollar-for-dollar, to arrive at a $1 million build budget.”

With its distinctive skin made from COLORBOND® steel, this new L-shaped structure is strikingly different to its predecessors, yet it meshes comfortably amongst them. Its most visible feature sits at the new public entry – a laser-cut metal screen by local artist Eden Quinn – which depicts the Saltwater-Freshwater Biripi people. Inside, reception and waiting spaces open up around a courtyard that shelters a significant, old jacaranda tree. Under its gracious boughs, weddings, births and major ceremonies have taken place over many years.

The wings of the building extend from the main reception area and comprise of consulting rooms, an office and a training room, which has become an important community asset.

The building’s roof and walls are wrapped entirely in cladding made from COLORBOND® steel in LYSAGHT LONGLINE 305® profile, in the colour Monument®. The courtyard elevations boast floor-to-ceiling glazing which enhances connections to the landscape and transmits a visual connection with the outdoor waiting area.

“We love COLORBOND® steel, we use a lot of it,” Kaunitz says. “It’s hard to beat the durability and low maintenance, and the ease of installation. Particularly in remote clinics, there are few other materials as suited to withstanding the environmental rigours.

“The properties of the steel material – it’s high quality and will last a long time – are ideal for health service applications, too, because those clients don’t have a lot of money for ongoing maintenance,” he adds. “We could potentially use fibre cement sheet or another cladding material, but it would require paint or treatment in some way, and so from a practical aspect, COLORBOND® steel is ideal.”

Kaunitz says he particularly chose the LYSAGHT LONGLINE 305® as the profile for its beautiful appearance. “The narrow rib and wide, flat pan – great modulation of the facade and shadow-play appearance. “The narrow rib and wide, flat pan – great modulation of the facade and shadow-play appearance. The narrow rib and wide, flat pan – great modulation of the facade and shadow-play appearance.”

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Throughout the day, he says, “it agrees very well with our architectural style. “On these kinds of projects, where the prime objective is health delivery, you rely on strong geometric forms to make the buildings appealing, and COLORBOND® steel in the LONGLINE 305® profile really accentuates that geometry.”

According to the project’s commissioning CEO, Brett Grimwade, and chair of the Corporate’s Board, James Glass, this new building – an impressive piece of architecture delivered on a modest budget – represents an outstanding outcome. “Everyone is very pleased,” Glass says. “We come from humble beginnings and now we have a culturally appropriate health service – catered for by young people of our own community. We got it built for the good health of our own community. We got it built for the good health of our own community. We got it built for the good health of our own community. We got it built for the good health of our own community. We got it built for the good health of our own community.”

The project won three major awards at the 2018 Australian Institute of Architects New South Wales Chapter Awards for Excellence, including the state’s COLORBOND® Award for Steel Architecture, the Premier’s Prize for distinguished social merit and a Commercial Building Award. That haul made it one of the biggest winners on the night; yet another example of how this humble project has exceeded everyone’s expectations.

The award jury particularly marveled at the way the building has become a symbol of the community’s sense of accomplishment around self-determination. “The Aboriginal-owned and run Biripi Clinic in regional Purfleat was another modest project with...”

“On these kinds of projects, where the prime objective is health delivery, you rely on strong geometric forms to make the buildings appealing, and COLORBOND® steel in the LONGLINE 305® profile really accentuates that geometry.” “On these kinds of projects, where the prime objective is health delivery, you rely on strong geometric forms to make the buildings appealing, and COLORBOND® steel in the LONGLINE 305® profile really accentuates that geometry.”

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‘Closing the Gap’. People tend to have complex co-morbidities, and the presentation rates at the clinic,” he says. “Aboriginal to provide a better standard of care, and to increase awareness, Kaunitz says. “Art is an important way of Aboriginal people communicating culture, and cranks around a tree which holds great significance to the community – to create an outdoor meeting area and protected courtyard. The building’s roof and walls – wrapped entirely in cladding made from COLORBOND® steel in LYSAHGT LONGLINE 305® profile, in the colour Monument® – accentuates the architecture’s precise geometry and produces a building that recedes into the background. It is not the ‘hero’ item. Rather, the laser-cut artwork at the main entry – which performs so many functions, from ephemeral to pragmatic – is the visible symbol, and is imbued with layers of meaning. It announces the clinic’s strong links with indigenous culture and helps to make this new facility a welcoming gathering place, one that prioritises health and well-being.

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The main benefit lies in the fact there was little or no additional cost, he says. “If you didn’t have the art screen, you’d need a protective screen for the windows, and we’ve found that laser-cutting artwork has a similar cost, as it’s a way of integrating art with the building that has function and purpose.”

Kaunitz said his wife and practice partner Ka Wee Young jokingly said that after their first successful art screen at Warnan in Western Australia, the firm perhaps shouldn’t install art screens on subsequent projects for fear of becoming known as a ‘one trick pony’. “But every time we do, we see these unexplainable reactions because they are integrated in a meaningful way,” he says. “When [the artist] Eden turned up to see us on the day we took the photos, she burst into tears and was overwhelmed. It’s a beautiful thing to do.”

Building upon a body of work that aims to take architecture into unlikely places, and having undertaken extensive consultation with the local community, Aboriginal health workers, clinicians and health administrators, Kaunitz Young has produced a culturally-inclusive building that has broadened and improved health delivery, and increased presentation rates. Add to that a way of integrating architecture awards, and this project has succeeded in every conceivable measure.

With its distinctive skin made from COLORBOND® steel, this new L-shaped structure is strikingly different to its predecessors, yet it nestles comfortably amongst them.

The integration of artwork in the form of laser-cut screens at the entry is a key part of the building’s acceptance, Kaunitz says. “Art is an important way of Aboriginal people communicating culture, which is at the centre of their world,” he explains. “We could paint the building with murals, but we want to incorporate art in an integrated and long-term way, and that’s how the art screens came about.”

The whole point of doing a project such as this is to provide a better standard of care, and to increase presentation rates at the clinic,” he says. “Aboriginal people tend to have complex co-morbidities, and the delivery of public and preventative health is a key element to ‘Closing the Gap’. It has already become a minimal budget that highlighted how architecture can be transformative at any scale,” the jury said.

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A new and colourful sight greets visitors to a new suburb in Australia’s outback capital of Alice Springs, where a rich cultural history is mirrored in a multilayered and coloured fence made from COLORBOND® steel.

“As a super-sized graphic of the bush passionfruit, brightly coloured and beautifully expressed in steel, has been used to adorn the fence in the form of a repeating motif.”

Ms Wallace gave her drawings to Alice Springs visual craftsman David Rilstone of Plasart, who specialises in cutting artistic forms. Mr Rilstone cut the intricate shapes for the third and final layer of the fence, which is made from ZINCSEAL® steel in LYSAGHT TRIMDEK® profile, in the colours Mangrove®, Gully® and Paperbark®.

Across the fence’s top and bottom, neat edges are added to create a smooth, clean finish at each layer. No flashings or trims were added to the edges or corners of the fence, silicon sealant is used to prevent water reaching the layers of cladding made from COLORBOND® steel in LYSAGHT TRIMDEK® profile overlap.

For details on overpainting of exterior steel products, please refer to BlueScope Technical Bulletin TB-2.

The completed fence contributes an important sense of identity for the recently created suburb, its practicality wrapped in aesthetic flamboyance and its cultural significance providing a point of appreciation for those in observance of such historic beauty.