

# SCOPE

NZ METAL ROOFING MANUFACTURERS INC.

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June 2024

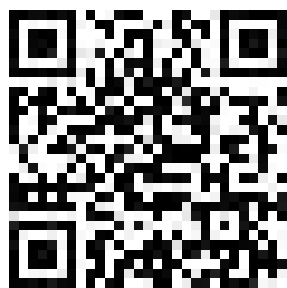
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Below is a brief introduction to the executive  
of The Metal Roofing Manufacturers Inc. It is  
intended that Scope be representative of the Metal  
Roofing and Cladding Industry in both commercial  
and residential sectors. Your submission of  
material you consider is of interest is welcomed be  
it design, research, manufacture or construction.

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Pacific Coilcoaters and New Zealand Steel  
are proud to support the initiatives of the MRM and Scope Magazine





# Introducing the **Roofing Guide App**

In Association with NZMRM and RANZ

It's here – the How To Roofing Guide series is now available to you online, in interactive 3d. We're proud to bring you the **Roofing Guide app**.

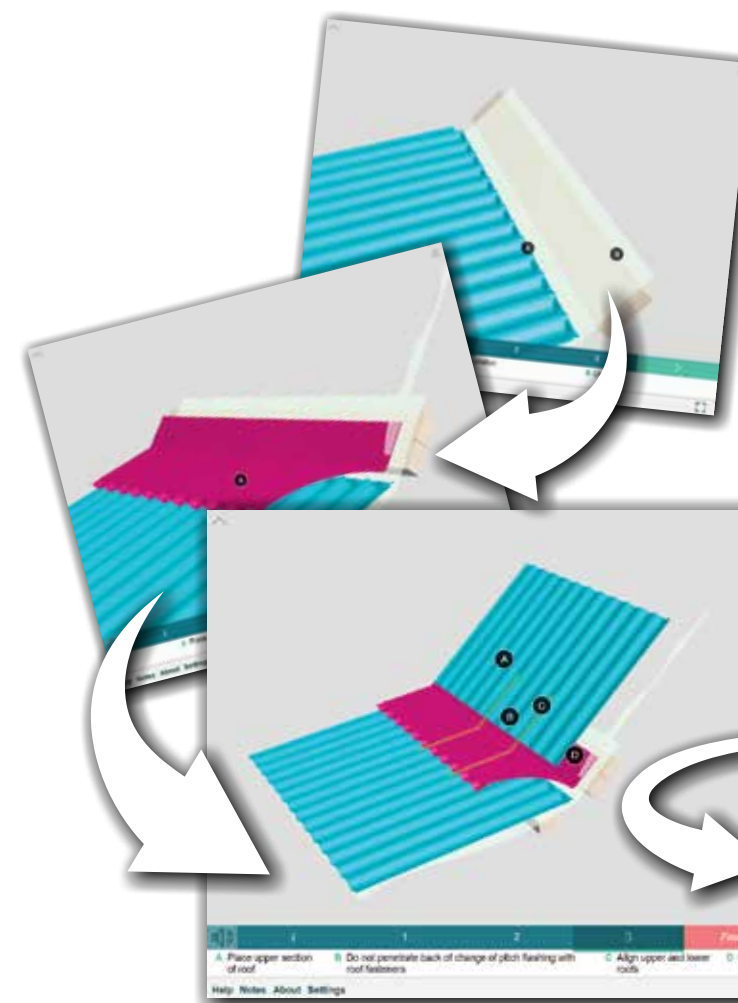
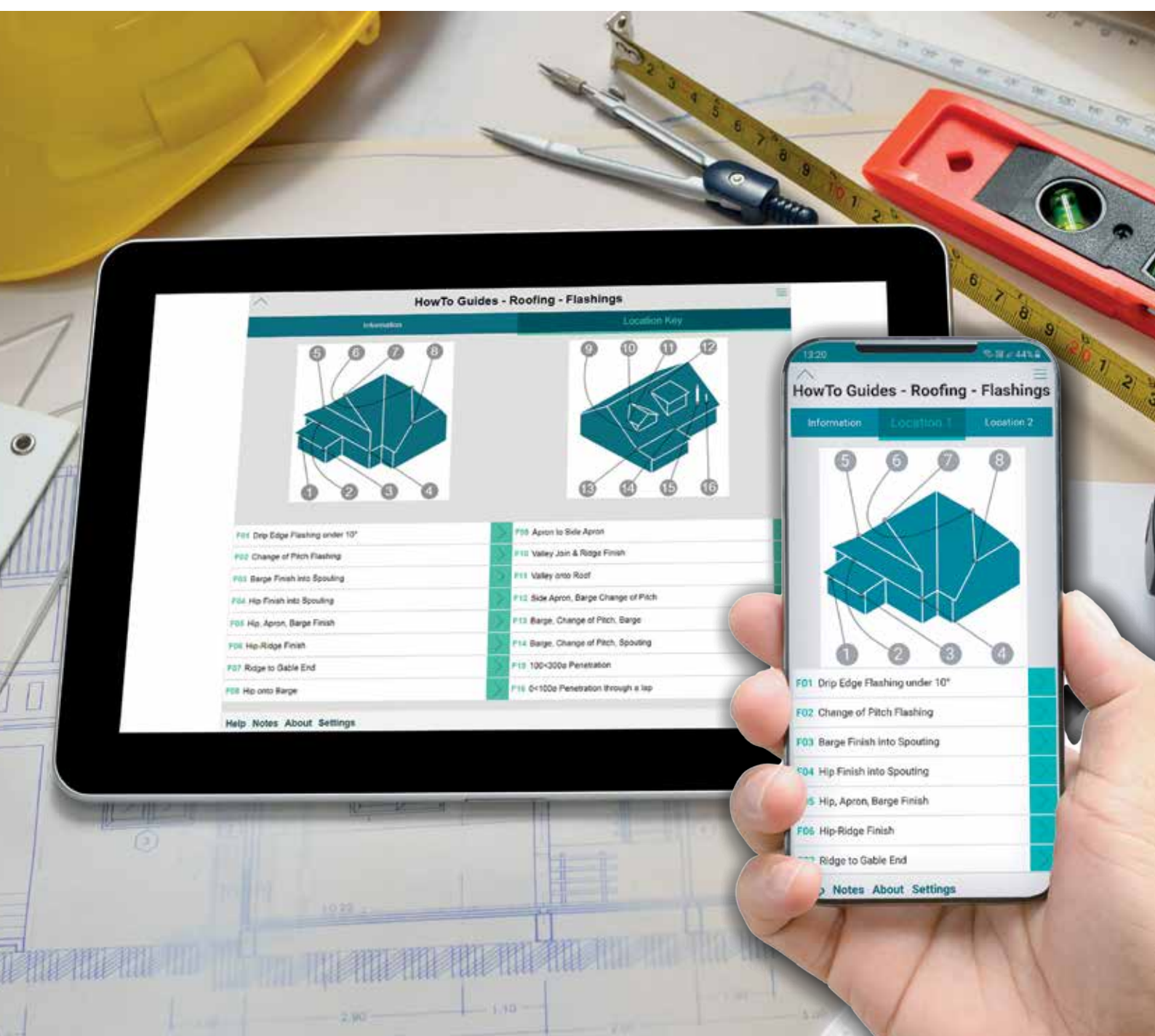
## READY TO SIGN UP?

**If your organisation is an NZMRM member:**

Please contact your established coordinator  
- or email [support@roofguide.co.nz](mailto:support@roofguide.co.nz) for clarification.

**Otherwise:**

See your RANZ Member email updates,  
or email [support@roofguide.co.nz](mailto:support@roofguide.co.nz) for more information.



## FULLY ANIMATED AND INTERACTIVE STEP-BY-STEP GUIDES

- Rotate in full 3d
- Works on any device
- Comprehensive animated instructions for every step



NZMRM CORROSION TESTING OF FASTENERS AND THEIR INTERACTION WITH METAL CLADDING.

In 2012 and 2019 we reported on the previous stages of this project. As we now approach the end of five years of the most recent stage, this article reviews the whole project and provides more detail of the current phase, and what may come next...

One aspect of all this testing to remember (and indeed this applies to most durability testing involving several or many years of exposure duration) is that to some extent it can be out of date before it finishes. This is because although we (or any tester) take the most recent product for exposure they are also being improved by the manufacturers. In some of our testing the products have been changed after we started assessment and at the end of the assessment (5 years typically) the product marketed is different (hopefully better) than at the beginning. It is certainly the case that none of the screws we tested in programmes from 2006 on should be currently being used for roofing, and most products have changed (and improved) several times since then.

Note also that we are not discussing specific screws from named suppliers, but the overall programme of testing and general outcomes.

So, to review the earlier work

As early as 2000 Pacific Coil Coaters expressed at an MRM conference their concern about fastener failure issues. Then in 2005 they called a meeting of roofing manufacturers and installers and fastener suppliers. They showed us samples of every screw they could find, from then current supply. Virtually all showed unacceptable levels of rusting. (Note that at that time only Class 3 per AS 3566.2 was required). So what were we going to do about it?

The first thing we did was to erect a corrugated steel roof at a test site near Muriwai Beach, a west coast location north of Auckland, and which had previously shown to be severely corrosive by measurement, and used for some years by Gerard



Roofs for tiles. Into this roof screw suppliers installed a range of their screws as they would normally have supplied.

What this quite quickly showed was that the earlier assessment was correct. One screw failed within 6 months and most of the others within 18 months. Now this is a very severe test site and product that showed damage there might well survive for some years in a milder environment. Nevertheless, for NZMRM this was a concern. At a time when we were emphasising the durability benefits of Zinalume and encouraging replacement of old galvanised roofs, having even just visual failures of the fastenings was not good.

After “energetic discussions” with screw suppliers (all of whom were offering “improved” products) we decided on a more thorough assessment at several locations. This ended up as a massive exercise and took a couple of years to prepare before starting in 2012. This has been reported in Scope previously , so just a summary will do here.

It was decided to be very thorough as we might only get one pass at the issue. We planned to test all the then available metal roofing products with several fasteners from each of the principal suppliers, with assemblies washed and unwashed.

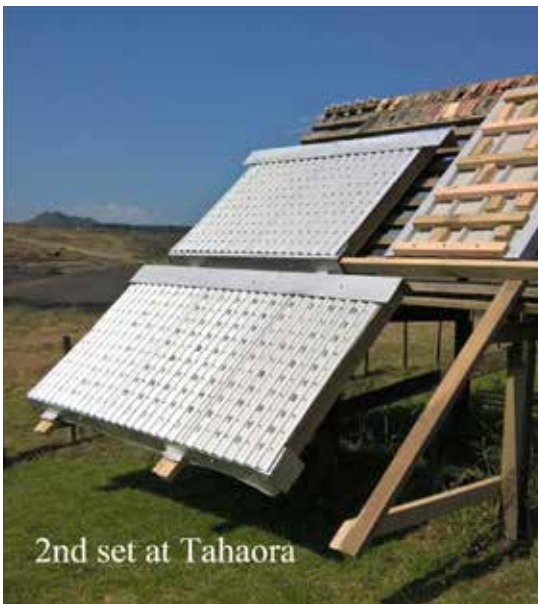
It was decided to be very thorough as we might only get one pass at the issue.



This was done by building special sheds with 45 degree roofs with three rows of panels, eight different substrates and 8 different screws.

First two rows were fully exposed and the top row covered with clear sheet so that air (salty, damp, or whatever) could enter but no rain-washing was possible. A shed was used as a persisting gift to the sites used, which were (north to south) Waipu Golf club (east); Muriwai Golf Club and Taharoa ironsand mine (west); Nelson boulder bank (north facing) and Invercargill Clay Target club (south facing). All these within 1-200 m from the sea, but with differing wind directions. These sites were assessed using both the methods in ISO 9223 etc, by exposing metal coupons and assessing metal weight losses annually and to a limit set by the standard, and also by measuring the corrosivity of the atmosphere over time intervals by using a salt candle to assess the actual salt content of the air, analysed monthly by local laboratories, and by recording the humidity and temperature at 5 hour intervals and analysing the data at 6 month intervals. Based on the ISO standard set these measurements were supposed to reveal the relative and absolute corrosion levels of the sites. We also examined the actual roofs and screws at regular intervals.

This, although according to the ISO standard, revealed a number of issues during the five years of its life. The zinc coupons were required to be a specific type from a specific manufacturer in France, but in spite of acquiring these, the outcomes were quite variable depending on the location and the actual chemical weathering. We had changed to steel by the end of the test series. Being close to the sea doesn’t actually mean super corrosive and we learned that west coast is necessary and significantly more corrosive than the other sites. In the end of the sites used, Nelson was dismantled and the roof panels analysed; Invercargill was virtually unaffected and is still there; Waipu was



not very affected and we offered to replace the shed roof, but is still there. Muriwai was severely affected and after the site was required we carefully dismantled the roof panel (not a shed) and recorded the outcomes. Taharoa was used for a couple of other useful exposure tests, and the shed after recording its condition was left. Subsequent development of the site means it is no longer there. So we learned a lot from these exposures, including a lot of things not to do,



We needed a severe site accessible from Auckland at a reasonable distance.

This is a very severe site, with our panels facing directly towards the sea.

whatever the Standard says. And our fastener suppliers also learned a lot from this and in spite of AS 3566.2 being terminated we now owe Class 5 fasteners and powder coating to some of these learnings.

So what next? The next sequence started in 2017. At this point we had been able to assess different manufacturer's fasteners and their effect on cladding. We had narrowed down our interest into Zincalume based cladding, painted and unpainted. Knowing that the cladding still performed better than the fasteners we wanted to test only "Class 5" screws painted and unpainted. While not really defined in a standard other than NZMRM we understand Class 5 to be "better than Class 4" the previous best. Worth noting is that when we started all this in the early 2000s, Class 3 was the norm. Now no-one serious in NZ or coastal Australia would use these externally. (Unfortunately Class 3 screws are still available in NZ. The apparent cost saving from these is quickly outweighed by having to be replaced and/or damaging the cladding).

Our main suppliers had all improved their products and wanted to have them tested. We needed a severe site accessible from Auckland at a reasonable distance. We located two possible sites – the NZ Steel North Head ironsand mine and a beach on the Limestone Downs property of the Alma Baker Trust, a charitable trust carrying out agricultural research on a large fairly isolated property. In 2017 we put out steel coupons in both locations to see which was more severe. By a narrow margin the Limestone Downs site was chosen.

We first installed a setup of eaves flashings to create a long term assessment of different alternatives.

We then offered our site for testing to our regular supporter screw suppliers and ended up with five takers. In 2019 we installed test panels of painted and unpainted roof and screws in four configurations – fully exposed; partly covered with



clear sheet; partly washed (mounted vertically under the fully exposed panels, and upside down again under the exposed **panels**.

We (MRM) have been critical of the use of "rattle-guns"- hammer drills – as visually we can see damage to the paint on the head of the screws, with frequently visually scraps of paint left on the roof. We decided to try and assess this by using different drills on all available screws and expose

at the site. Typically several of the screws had already had the coating method changed since the first lot were put out.

Other tests done include the effect of wet treated and untreated timber in contact with Zincalume and Colorsteel.

The site has been assessed by steel coupons annually and although there has been some inconsistency in the results this is a very severe site, with our panels facing directly towards the sea.

Reporting to suppliers will happen as and when their products meet our current definition of failure as specified in the Code of Practice. This is a work in progress, and annual inspections check what is happening.

**So, what next?**

Current plans include an open fronted shed to more properly provide typical unwashed areas. We have a good location on site, facing the sea over the existing racks. Just need to build it. We also plan to make new racks with better provision for partly washed areas. Just to note that access to the site is difficult physically, and we also need to take into account calving. We have been fortunate in that the farm manager has provided great help in installing and transporting racks – and pulling our vehicle out of serious holes. We plan visits in April, before winter weather and inaccessibility, to inspect and change steel coupons. (Note that it is important that the coupons are not exposed for long before winter cold and wetness). We then visit again in November/December to inspect and carry out any work – like shed building.

Anyone with a spare helicopter?

S.Hayman 14/4/24





## BAXTER'S HOUSE

A unique ridgeline home at Kennedy Point on Waiheke Island is composed to capture it's wide and elevated views.

It's a home for a couple and their dog Baxter.

The brief to Strachan Group Architects (SGA) from the client was for a permanent home with the Waiheke lifestyle to be encapsulated in an easy living, non-pretentious home with stunning coastal views. Guests needed to be accommodated in the home with separation from the owners being a requirement. The home was to have an efficient floor plan with no wasted space and constructed with low maintenance materials.

SGA's Roy Tebbutt and Kelly O'Sullivan designed the home keeping neighboring homes to the east and west of the site in mind. There is transparency through the centre which creates a "breezeway" with living areas through the heart of the home. Each side is "bookended" with bedrooms offering privacy.

The home has a modest split-level floor plan: three bedrooms, two bathrooms, a small garage, and a single open living space. The garage and entry are low on the site with the main bedroom and ensuite elevated above. Living and guest spaces sit at a level between, connecting through the centre of the plan to both a windward and a leeward deck. Booth dining seating and low room dividers have been used to further increase spatial efficiency.

"The home has been imagined as a composition of silhouettes on the ridgeline", say SGA. "Dark toned materials (Espan® 340 in COLORSTEEL® Flaxpod® Matte and shiplap cedar cladding) and peaked roof forms enhance this notion when viewed from car ferries and watercraft passing the base of the cliff below. Mature Pohutukawa trees border the home when viewed from afar, while framing the distant vistas looking out".

Consideration was given to setbacks from the southern cliff, the home is sited back from the crest to avoid the need for extensive retaining. The 1,000m2 site required a concise building footprint to accommodate site services and on-site effluent systems.



A comprehensive set of details from SGA ensured productive and meaningful prior meetings and forward planning for construction with build partners Create + Construct and Euroclass Roofing.

This collaboration was also key given the limited number of site deliveries: it resulted in the astute architectural combination of lightweight timber construction and metal rather than structural steel and concrete, this also eased delivery of materials to the island.







The use of timber in the subfloor, framing and roof structure with minimal use of steel and concrete meant the release of carbon during the build was reduced.

Glazing for solar access was considered to work with both winter and summer sun conditions, giving the owners a comfortable interior environment. Strategic openings for natural ventilation help to further regulate seasonal temperatures.

Low maintenance COLORSTEEL® features on the elevated and harder to access parts of the home with timber cladding employed around lower areas with access mainly off a low step ladder.

Cladding and flashing work played a significant role in the aesthetics of this Waiheke build. Espan® 340 in COLORSTEEL® Flaxpod® Matte finish was chosen for the roofing and cladding. The Espan® trays were folded around corners with meticulous attention to ensure the trays met up exactly to clip in the final full tray.

Euroclass Roofing wrapped each end structure of the design, the colour of the Espan® material complementing the accompanying shiplap cedar to create a clean exterior feature.

#### **Strachan Group Architects (SGA)**

A multiple award-winning Auckland practice, the team brings a highly developed sense of craft to the task of creating sustainable buildings with precision and excellence.

The interpretation of a client's brief is matched with a complex understanding of site, the impacts of the natural environment and the many contexts within which a building must operate. SGA adds a precise understanding of construction requirements, along with the ability to communicate ideas about building as they develop throughout the build process.







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**Roofing/Cladding Manufacturer**

Metalcraft Roofing  
Profile: Espan® 340 in COLORSTEEL®  
Colour: Flaxpod® Matte

**Roofing/Cladding Installer**

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MAKUCH HOME



There was always a time when roofing business owner Jonathan Makuch would build a home – one which, in his words, would ‘highlight the power of combining design vision with technical roofing expertise.

Architectural Designer Jason Kraayvanger’s brief was thus very client driven, Jonathan having done a lot of planning and design work during his time off during COVID.

#### The brief

Says Jason, Director and Architectural Designer of New Vision Architecture: “Jonathan approached me with an idea and some sketch drawings and from the outset it was clear he wanted something “out of the norm”.

Jonathan’s new house would replace his existing bungalow on State Highway 3, Kihikihi in an existing residential area. While the exterior form was going to be recognizably different to the surrounding properties, the layout of the house is a straight “L” shape footprint consisting of three bedrooms, two bathrooms, an office and open plan living area.

Says Jonathan, Managing Director of Waikato-based Makuch Roofing: “I have always had a passion for architecture, impactful, minimalist and brutalist architecture.

“Jason and his colleague Jo had the difficult challenge of turning my sketches and models into plans for something that was not only going to be buildable but liveable.



SCOPE 60







We started the roof pitch at the low end, about 3 degrees, and at every rafter we increased the pitch slightly until we reached 25 degrees at the high end creating a subtle twist.

"We also built a 3 x 6m scale mock-up of the roof structure to make sure it was going to work."

Located in Te Awamutu on a state highway, access was the main challenge to the site, a mobile tower crane installed on site for 10 weeks of the build to assist with unloading and installation of materials. Roofing and cladding materials were located straight into position by crane as they were delivered on site.

#### Design features

The exterior skin insulation is common overseas however Jonathan says it is relatively new in New Zealand. Having the PIR board over the exterior of the framing eliminates the thermal bridging caused by the timber framing. The twist in the roof is also impressive, Jason Kraayvanger says it was one of the big challenges he faced. "To create it we started the roof pitch at the low end about 3 degrees and at every rafter we increased the pitch slightly until we reached 25 degrees at the high end creating a subtle twist. This same effect was visible from inside as the raking ceilings followed the same curve".

#### Innovation

Jonathan's focus on innovative roofing practices saw him develop a hybrid warm roof system based on a mix of various other systems.

"We took aspects of warm roof systems we like: for example the liner sheet was installed perpendicular to the rafters which meant we didn't need to install a row of purlins for the DD400 roofing twist as it goes along the roof from a 3 degree roof to a 25 degree roof. The tray cladding (Heritage Tray) appears to fold down the roof so no barge flashings. We designed small apron flashings instead of a barge so the cladding was hand crimped over at the top of the sheets. The cladding sheets are also seamed into the windows to give the effect of no flashings".

Jason says the custom-made flashings have created a seamless finish giving the wall to roof intersection point a clean shape edge. With Jonathan's focus on creating a home that did not require a lot of heating and cooling, by installing an exterior insulation along with a highly reflective cladding, the home is also energy efficient with PIR board on the roof and walls achieving high R-values and a heat recovery ventilation system also installed.

Jonathan project managed the build and helped out on the tools most days with Connor Construction doing the main carpentry work. Connor is a mate of Jonathan's from working together on building sites over the years and most of the sub-contractors on the build were also mates.

Worth mentioning is Jonathan's brother Shane Makuch, a metal wall cladding guru working six weeks on the Heritage Tray installation for this unique project.

Home owner Jonathan has the final word. "My house build blends Brutalist-inspired design with a focus on innovative roofing practices. As the owner I heavily shaped the design and installation alongside my brother, who masterfully executed the cladding. We chose Dimond DD400 profile for the roofing and Heritage Tray for the cladding – both chosen for their durability and striking visuals. The coating on all the exterior metal cladding has a pattern and texture through it. The bold roofline twists from 25 to 3 degrees demanding precision, while custom flashings create a seamless finish."

#### New Vision Architecture

We offer full involvement throughout the design process, direct contact with the architectural designer for your home, creative and innovative design techniques, high quality design, construction and specification documentation to meet all building consent requirements. New Vision Architecture aspires to design distinctive homes, additions, alterations, accessory buildings and small commercial buildings with street appeal and individuality that fulfil our customers' preferences.

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Jason Kraayvanger

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#### Builder/Carpenter

Connor Hamilton Construction

#### Roofing and Wall cladding Manufacturer:

Dimond Roofing  
<http://www.dimond.co.nz>  
Roofing profile: DD400  
Wall Cladding profile: Heritage Tray







**CHRISTCHURCH NETBALL CENTRE**

Netball in Christchurch has a new, purpose-built indoor facility which forms part of the Nga Puna Wau sports hub at Halswell.

The 13,000sqm venue, constructed by Apollo Projects, opened in November 2023 and features a roof from Roofing Industries in ColorCote® ZinaCore® .55 Multirib® in Pacific White.

The project required the production and delivery of 38.810m long sheets of this material to site: this presented new but not unexpected challenges.

Sheet lengths like this are commonplace on large commercial/industrial builds but this contract threw up some precision timing issues from the roll forming of the sheets to the journey through Christchurch streets for delivery onto a difficult site.







Sheets in lengths of 38.810m posed the first problem – production of this length would extend several meters outside the parameters of the factory, creating the need to have the product produced, loaded and exiting the factory in a single workday.

A cycle of production was developed. Allowing for the production, loading and removal from the building within the single day target. This was required due to the fact that the building was unable to be secured with 10m of truck and loaded product outside the parameters of the Roofing Industries Christchurch factory.

Detailed planning on the movement and organization of materials on this scale was down to precision planning and timing, due to the factor that each sheet weighed 213kg and the limitations on crane lift weights, restricted that limited the pack size to only four sheets and a truck load of only 15 packs. Each load did include a 25m spreader bar for lifting on site.

Delivery of this oversize load through Christchurch to the build site – a 30-minute journey – needed a specialist truck with a remote controlled rear steer trailer. Pilot vehicles were deployed front and rear during the trip, assisting with the early morning navigation around some tough corners and inconveniently parked cars.

Over the course of five weeks the five loads were successfully delivered with a Card Roofing team contracted to Wayman Roofing Services assisting with the unload and then installation of the .55 Multirib® sheets, load by load.

Managing the successful flow of manufactured sheets from Sockburn to the large sports complex site in Halswell was an exercise in carefully timed logistics for the Roofing Industries team, Hanham Transport and Card Roofing – all of whom contributed to the planning and execution of the project – working together to ensure what amounted to 80 tonnes of material in total making it to site. Full credit to all those involved.



Opened in November 2023, the Christchurch Netball Centre (CNC), named Putahi Poitarawhiti ki Otautahi, is a multi-purpose centre for the whole community with ten international standard netball courts, a mezzanine floor for viewing, a café, multi-purpose meeting rooms, equipment storage facilities, changing rooms and 430 car parks.

Total cost of the centre was \$16.5 million, fully funded by CNC which had a gift from a generous benefactor after the 2010/2011 earthquakes and again from the same benefactor as building costs increased markedly following the pandemic. \$500,000 was also secured from New Zealand Lotteries and \$750,000 from the New Zealand Community Trust towards sprung wooden flooring inside the stadium. The Hagley Park CNC centre has been sold but is still able to use the outdoor courts for competition and training.

■ |||







## THE MODERN RED SHED

Residential | COLORSTEEL® Scoria | Corrugate



As an architectural designer's own home, this Otumoetai house is designed to reflect the family's unique needs and wishes, with a material palette chosen for sensory effect and connections to the land.

For most people, but especially for those with neurodiversity, the tactile experience of a home can have a huge effect on their enjoyment of the spaces within. For Steven Chambers of Stufkens + Chambers Architects, who has two neurodiverse children, designing his own home offered a chance to bolster his family's quality of life by using materials that are pleasant to experience with all the senses.

For the exterior, this meant cladding the home in corrugated COLORSTEEL®, chosen for the wave-like profile, which calls out to be touched as you walk alongside it, and extending this material over the roof gives the house a cohesive, contemporary look. The choice of Scoria for the cladding colour references the rural buildings that used to stand in this suburb, which was once a farm, and calls about the idea of rich soil, tying the building to the earth below it.

Inside, unfinished Lawson cypress timber lines the walls and floors in many of the spaces, chosen for its warm, spicy scent. A fireplace provides enticing glow and warmth, while also offering the sharp smell of split kindling and the atmospheric odour of gently burning wood. Most of the walls are white, with timber, artworks, plants and ornaments providing an engaging and bright interior colour palette.

The form of the house is in part due to its narrow, sloped site, which offered an opportunity to create a series of different levels. This enables spaces where the family can tuck themselves away when they need quiet time, with timber ceiling fins downstairs providing soft acoustics in the zones where they come together. Blue painted hallways then provide a visual cue to unwind between the public and private areas of the home. While the downstairs space is compact and open plan, with a kitchen bench running along one wall alongside the dining and living areas, the design provides many connections to the outdoors and places to perch and move.



A secondary dwelling, connected to the main home, includes a loft sleeping space accessed via a ladder, with a minty-fresh, green tiled bathroom tucked below. This unit can be used as an accommodation rental or as space for guests, with its whimsical design adding to the sense of relaxed fun that emanates from the home.

Outside, macrocarpa decking is designed to be long enough for scootering and running, with that COLORSTEEL® Scoria red cladding, evocative of the classic Kiwi shed, an ever-present backdrop.

**Architect:**

Stufkens + Chambers Architects

**Location:**

Tauranga, NZ

**Colour:**

COLORSTEEL® Scoria

**Profile:**

Custom Orb

**Rollformer:**

Steel & Tube

**Builder:**

Totara Construction

**Installer:**

Kaimai Roofing

**Photographer:**

Rose Minnée Photography







## THE HOUSE ON MINDEN HILL

The night-time vistas at Minden Hill are breathtaking, with broad sweeping views overlooking the vast ocean and Tauranga's twinkling city lights. This is the view that captivated Graeme Neilson one clear autumn evening, just as dusk was settling in, and what kickstarted his years-long project to transform the house atop Minden Hill into his home.

It was 2018 when Graeme purchased the property and although the location was faultless, the house on the land didn't fit with his vision. Graeme explains

"It was the ugliest house you could ever imagine in the most beautiful of settings." It was a monotone plaster clad building, designed in the Modernist style popular from the 1930s to the 1960s. Continuing the theme of the minimalist cladding the roof was a flat pitch, characteristic of the architectural style, giving it an almost industrial aura. Though the building wasn't to his liking, Graeme saw the

potential, and could imagine how a redesigned home could look with a pitched roof at the centre of the project.

Graeme's vision for his new home drew inspiration from Canada, where his brother lives. Having spent a lot of time there, Graeme fell in love with the aesthetic of wood shingles and slate cladding that is characteristic of the country. This would require a drastic overhaul of both the exterior cladding and the roof structure. To kick-start the project, Graeme







contacted Peter Lochhead of Lochhead Design Ltd. With a clear brief that had the roof change at the core of the project, Peter redesigned the entire roof structure to form a complex pitched roof with multiple storeys, gables, hips and valleys.

Once the design was in place, the material choice was an easy decision to make. Graeme chose Gerard's CF Slate profile, a slimline roof tile system made of a core of Zincalume®, coated in proprietary protective layers and finished in a natural stone chip coating with overglaze. In the final design, the CF Slate tile roof was accompanied by external gable support posts finished in a natural slate cladding. Graeme says of the design, "That shingle type roof was just something that I really loved and being able to find it in a metal form to get the strength and durability of steel was just the ultimate."

A change to a pitched roof is relatively common overseas where flat membrane roofs have led to water ingress issues. Flat roofs are characterised by a pitch of less than 10° and in New Zealand, typically require a minimum of 2° to meet the Building Code. This extremely low pitch can lead to ponding, or standing water, which is when water is unable to run off the roof for over 48 hours after rainfall. Once ponding is present in a flat roof,

remedial action needs to be taken or the issue will accelerate due to the weight of pooled water. In addition to ponding, cracks, blisters, and splits are all common issues with membrane roofs, which may be difficult to identify as water seepage can go unnoticed leading to long-term damage.

The large project was prolonged by regulatory requirements to bring the existing structure up to current day's Building Code. Folded into the primary project of restructuring the roof, additional changes were built into the overall plan, including updating the kitchen, remodelling internal walls, and the introduction of natural timbers in the home.

To manage the project Graeme contracted Stuart Wood, a local Tauranga-based building contractor on Peter's recommendation. In turn, Stuart brought in the team at Taylor Roofing who are experts in working with Gerard roofs. Construction began at the end of 2020, with scaffolding being erected around October. During this period, Graeme decided to remain living in the house, only shifting out for around three months when the house became unliveable.

The roof was completed in late 2022, in time to protect the house from the severe weather conditions early 2023 had in store for the region.

Graeme elaborates "It was the ultimate test in terms of roof performance as the location is really, really exposed. [The wind] is about as extreme as you're going to get". Utilising Gerard's Concealed Fastening (CF) technology, the CF Slate profile's design forms an interlocking matrix that is incredibly robust and lightweight. Fasteners used on the roof are hidden from the elements, prolonging their lifespan and ensuring a sleek final look.

The entire project spanned two and a half years, with the entire building transforming into a new modern-styled home. And as the project came to a close in April 2023, the hard work paid off with Graeme hosting his wedding on the property in front of the newly renovated home. Graeme reflects on his project to completely overhaul the roof, "I'm totally stoked with it. It's a beautiful roof."

■ |||

**Architect:**  
Lochhead Design

**Profile:**  
CF Slate

**Roofing Installer:**  
Taylor Roofing





## TE URU TERRACES

Typical of Hobsonville Point, Te Uru Precinct features a range of architectural styles but what makes Te Uru Terraces different is the way their design drew on Maori influences to give them a sense of place.

The inspiration behind the design of the townhouses and the way they make high-density living appealing produced a winning combination in the 2023 National Resene Architectural Design Awards, with the development jointly taking home the prestigious Supreme Award.

The judges of the awards said Te Uru Terraces provided the perfect example to Tamaki Makaurau / Auckland of how to build high density, liveable housing.

The judges said that the eight separate buildings provide a number of townhouses, with a common language of forms being individualised by colour, materials and textures into homes for all.







The cultural history of the site is written into the façade in places, with careful weaving of patterns into the brickwork

“The cultural history of the site is written into the façade in places, with careful weaving of patterns into the brickwork referencing the welcoming action that the buildings do, as both a karanga and a hongī to the incoming visitors.”

With input from Ngati Whatua o Kaipara and designed by Konstrukt Architects in conjunction with the Fletcher Living team, the terraces’ unique design impressed the judges, who said they were an example of “density done well”.

While the buildings present as traditional three-storey terrace homes, the first floor of the buildings contains a one-bedroom unit, with the upper two levels being a spacious three-bedroom home. Both dwellings enjoy their own private entrances and private outdoor spaces. This design combines terrace and apartment living to great effect, creating increased density and a variety of home sizes.

The provision of the one-bedroom units was a key part of the design brief, helping to meet the affordability target required by Kainga Ora in Hobsonville Point.

The design of the terraces is contemporary and varied, comprising a mix of materials and forms that create a vibrant streetscape but one that is also in keeping with the context of the surrounding developments.

Part of that mix of materials is the roofing, in Trimrib ColorCote® MagnaFlow™ in ‘Titania’ and ‘Ironsand’, with the contrasting colours helping to delineate the homes. Kyle Golder, of roofing installer Aspect Roofing, said it was an exciting project to be involved with as it had “good designs visually and nice large roofs for the team to get stuck into once we got over the challenges at the beginning”.

He said, “The main challenge was the height of the building, which required a large crane to lift the roofing materials. There were also three skylights in a row up on the roof which where a challenge to flash – this was a fun challenge for the team. The staged nature of the job meant we installed the lower roofs first then the scaffolding was built on top of the lower roofs.”

The development is bookended by two marker buildings, creating strong visual anchors on either end that also emphasise the street corners and show off the value of a cohesive urban block.

Award winning architect Madushin Amarasekera, of Konstrukt Architects, credits the input of Ngati Whatua o Kaipara for many of the creative design elements that make the buildings so special.

“Incorporating te ao Maori design elements into the building fabric in a subtle, sophisticated manner was always the intention.”

Madushin commended the work of Mei Hill as the Ngati Whatua o Kaipara conduit for the culture design aspects. “We worked closely with her when it came to integrating her patterns onto the building facades.”







We feel it was fitting that the final concept drew inspiration from the Powhiri, the traditional Maori welcome, with the development symbolically welcoming visitors to Hobsonville Point

He added, “Engagement with Ngati Whatua o Kaipara was fundamental in establishing pertinent architectural responses, through understanding what mana whenua wanted for the site and its context.

“Once we received a narrative from them, we worked on our own architectural response.

“We feel it was fitting that the final concept drew inspiration from the Powhiri, the traditional Maori welcome, with the development symbolically welcoming visitors to Hobsonville Point.”

Two important parts of the Powhiri are the Karanga and ‘Hongi’; the former is the fourth stage of the Powhiri, a spiritual call through the passages of time from women to women. Its purpose is to weave a spiritual rope to allow the waka of the manuwhiri to be pulled on; it should be continuous, weaving

in and out of each other. The continuous spiritual call is abstracted into the undulating, repeating roof form pattern – a visual echo to the melody of the Karanga. The ‘Hongi’ is the mixing of the Maori of both the Tangata Whenua and the Manuhiri, it is the first physical contact – each building’s roof forms reach out to meet, symbolically representing the traditional greeting.

Urban Design Team Leader Orson Waldock at Kainga Ora and convener of the Hobsonville Point Urban Design Review Panel was involved with the terraces project early on.

He said, “More commonly referred to as a maisonette, this typology has been through several design iterations at Hobsonville Point. These innovative buildings have become an increasingly

important way to deliver greater density within an approachable and recognisable three-level built form.

“This typology gives us the ability to deliver a larger number of smaller, more affordable and more accessible ground floor units at Hobsonville Point. This increase in housing choice provides options for those with mobility needs as well as the opportunities for multi-generational living within a single walk-up terrace”.

“Based on the success of Te Uru, we are now exploring how this type of housing could be used to support public housing, to help us achieve our mandate of delivering more homes for all New Zealanders.”



#### Construkt Architects

Construkt are an Auckland-based studio with a diverse multi-disciplinary team offering architectural, master-planning, and urban design services. They work on projects across New Zealand, ranging from private homes to master-planned multi-unit communities. Within each project they are committed to sustainable and culturally responsive design outcomes.

Construkt believes, “Architecture is not about the design of the building alone, it is about the culture, the city, the community it serves, and its ability to enrich the lives of those it touches.”

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## TAMAHERE COUNTRY CLUB

The dream was to build a retirement village with a true country club style.



When Nathan Sanderson branched out on his own to build a retirement village, he had one simple aim: to build the best one in the country.

Tamahere Country Club is the culmination of his experience working for his father Fraser's Sanderson Group and delivering projects such as Bethlehem Shores, Bethlehem Country Club and Queenstown Country Club.

"You could say I served an apprenticeship to my father working on those developments. We have taken all the best aspects of them and put them into Tamahere Country Club."

Tamahere Country Club was started in May 2019 by Nathan and his wife as a seven-year build producing 93 homes but that has ballooned to 252 homes because of demand.

Tamahere Country Club runs its own construction teams, meaning it can bring a real focus to quality control.

Nathan said, "We wanted to build the best retirement village in NZ and we're confident we're delivering this to our residents. We have a large waiting list at Tamahere Country Club, meaning the homes have been selling as fast as we release them to the market."

He added, "The village started as a 93-unit village with a clubhouse, health spa and small care facility. We imagined this would take us seven years to build but due to the overwhelming demand, within the original seven-year timeframe the village will be 252 units, 80-bed state-of-the-art care facility, clubhouse, health spa, lake house, cafe, health retreat, arts and craft centre, golf driving range, hobbies shed, and a man-made lake in the centre of the development with stone bridges for access over the lake and so much more."

Nathan said the dream was to build a retirement village with beautiful architecture that will stand out in years to come.

"This is why we chose cedar, Italian brick and Dimondek 400 with under clip system as our exterior look. Every detail has been thought of without compromise to create the best retirement village."

The average house size at Tamahere Country Club is 230sq m, and all homes are standalone with expansive gardens and lawn.

Nathan adds, "Our residents enjoy the opportunity to have input into their design, allowing them to create a customised home, perfect for enjoying the retirement the way have always dreamed of. Details such as interior fit out, electrical plans, kitchen designs and wardrobes are completed during consultations with our building partner during the building journey."







With their gable forms and pavilion-style architecture, these homes stand proudly amidst the picturesque country setting

The villas range in size from 196sq m to 330sq m and include either a single or double garage. All Tamahere Country Club villas are north-facing to maximise sun and natural light.

With their gable forms and pavilion-style architecture, these homes stand proudly amidst the picturesque country setting. The layout of the village reflects meticulous planning, providing convenient access to local events and activities. The Sanderson Group's approach promotes a community feel, with a huge range of activities for residents to enjoy and a variety of spaces to socialise on site.

Architectural Designer Hannah Armstrong-Gardner, of Studio H, has been involved in this project and the new Matamata Country Club Village, both using the same Dimondek 400 roofing profile.

Hannah said, "We've been fortunate to be involved since the inception of both developments, allowing us to work through comprehensive briefs for the overall development and individual homes.

"For the Tamahere Country Club, the brief emphasised creating a luxurious, community-oriented living environment that seamlessly integrates high-end amenities with the natural beauty of the surrounding landscape. The architectural brief for the homes focused on designing elegant contemporary residences featuring high-quality cladding materials such as cedar and Italian clay brick. These designs blend modern aesthetics with traditional elements, ensuring durability and visual appeal while harmonizing with the natural environment. Moreover, the homes are designed to ensure the best quality interior environment keeping our aging population dry, warm and healthy."

The Dimondek 400 roofing was chosen for its tray profile aesthetic, strength, durability and excellent spanning capability.

Hannah said, "This design helps in reducing the number of required supports and therefore can save on construction costs. To be able to gain this architectural feature without increasing construction costs as is often the case with other tray profiles is a significant advantage when building many homes in one development."



#### Studio H Design

Studio H is a bespoke Architectural Design practice specialising in residential dwellings.

Led by Hannah Armstrong-Gardner, an Architectural Designer based in the Bay of Plenty, Studio H explores thoughtful and considered designs that use pragmatic building techniques, products and systems to create something unique.

Every project is formed directly with their clients, built from their stories and the way they live. Working in a collaborative process, Studio H makes sure the end result is exactly what clients' homes need to be for them now and in the future.

Studio H provides 3D renders and interior elevations to make sure there is no detail left behind. They offer a comprehensive range of services for both new builds, renovations, commercial fit-outs and master planning.

[www.studiohdesign.co.nz](http://www.studiohdesign.co.nz)

#### Roofing profile:

Dimondek 400

#### Roofing Supplier:

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[www.dimond.co.nz](http://www.dimond.co.nz)



Central to that process is Studio H, which has collaborated with Sanderson Group on the masterplan and villa designs for Tamahere Country Club.

Building upon their previous partnership with Sanderson Group, Studio H has incorporated the most exceptional aspects from their existing villages, resulting in a new standard of retirement care residences that aim to surpass expectations.

Each villa on the 31ha site has been meticulously crafted with the specific needs of its future occupants in mind, ensuring that every individual feels a profound sense of belonging within these dwellings. The homes boast a selection of opulent materials, including exquisite Italian bricks and elegant cedar cladding. Careful attention has been paid to crucial building components such as external joinery, insulation and mechanical ventilation, guaranteeing the utmost comfort for all residents.





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