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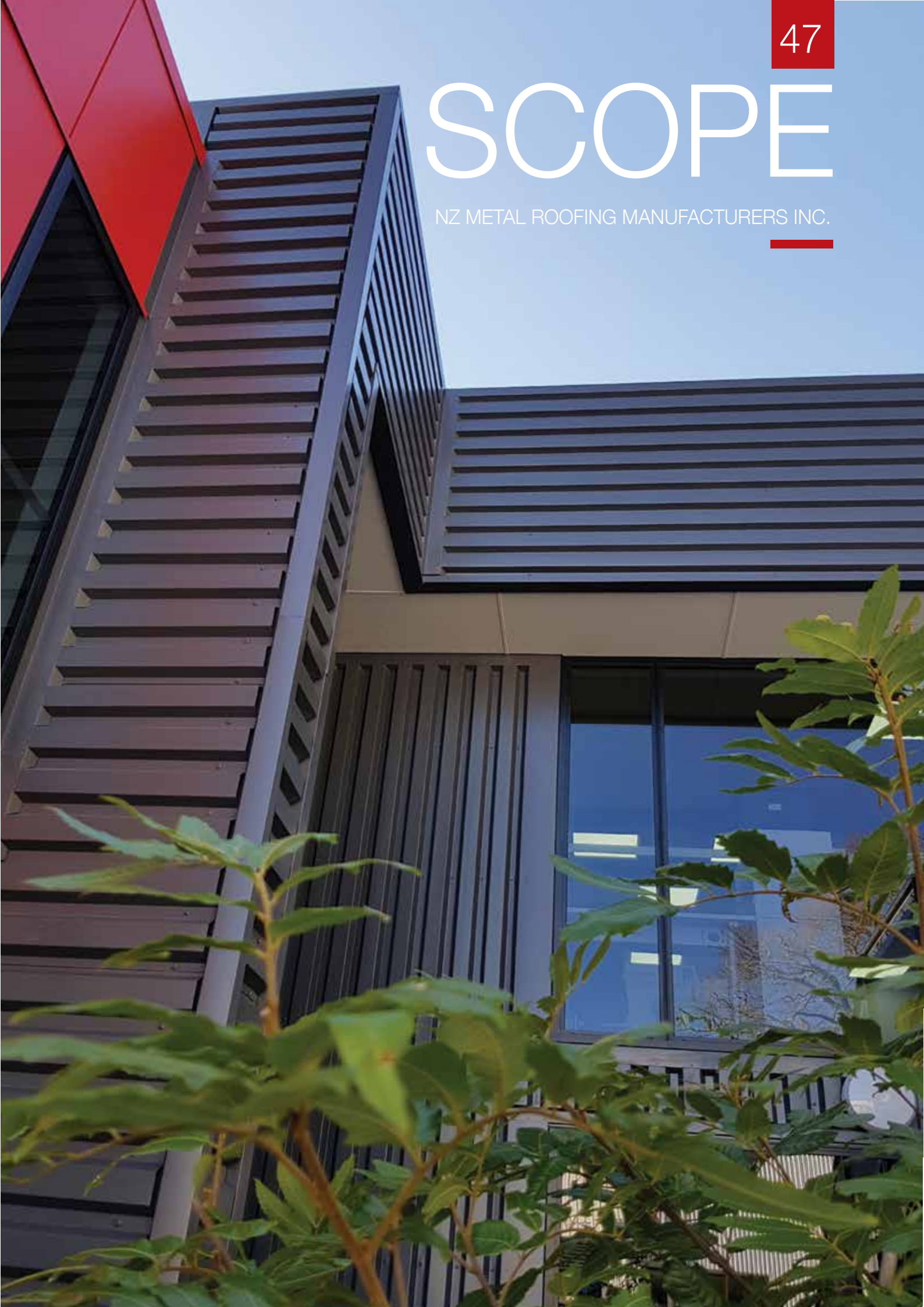
SCOPE

NZ METAL ROOFING MANUFACTURERS INC.



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NZ METAL ROOFING MANUFACTURERS INC.

JUNE 2018

Scope is the official publication of
The NZ Metal Roofing Manufacturers Inc.

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Opinions expressed in Scope do not necessarily reflect the views of the NZ Metal Roofing Manufacturers Inc., its executive, committee members or publisher unless expressly stated.

Published by ICG Limited.
46 Attwood Road, Paremoremo Auckland.
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Visit our website at: www.metalroofing.org.nz

Below is a brief introduction to the 2018 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.

PROJECTS

ARTICLES

PHIL GREEN:
H G ROSE ARCHITECTURE

Style and design flair for Certified Builders' new national headquarters in Tauranga

When a designer who thinks outside the "little boxes on the hillside", collaborates with an established building industry leader to create a building reflecting the client's ethos of quality and honesty, the result can be spectacular.

The Certified Builders Association of New Zealand (now known as NZCB) was looking for a new tenancy in Tauranga for its national headquarters staff, the current tenancy being disjointed and lacking the cohesiveness required to function for service to its national members.

Several options were considered, including moving to another inner city commercial block, but NZCB settled for a parcel of land on the fringes of the Tauranga CBD which contained a single storey office area and an attached two storey steel portal warehouse/workshop bay and a generous, sealed parking area.

Foresight is a great thing: this area is now designated by Tauranga City Council as part of the proposed Tauranga City Revitalisation Plan and Marsh Street is to be rejuvenated into a boulevard of trees and walkways, thereby increasing the beautification of the area.

Phil Green of H G Rose Architecture was approached by NZCB to come up with some options for turning the existing building areas into office space as is but with future proofed facilities and a separate office area for another tenant associated with the building industry. It soon became apparent that the existing building footprint would not be suitable for office space dedicated to the client and considerable modification and earthquake strengthening would be required.

NZCB CEO Grant Florence worked with Phil to explore better possibilities to maximise the

potential of the site. A revised brief called for re-use of as much as possible of the existing building footprint but allowing for two storeys across most of the building site. The outcome was to leave the south and east two-storey block boundary walls, to re-use as much of the portal frame steelwork as possible and to create a building that portrayed NZBC values and expertise. Also at issue was a requirement to work to strict heights and tight planning conditions given the adjoining properties form part of the historic precinct of Tauranga's CBD.

It became clear that a building with flair was required and the standard approach of a square or rectangle with some fancy detailing was not going to cut it. Phil's vision was for a building that expressed the solid foundations of New Zealand construction techniques but also conveying the idea that NZCB were "qualified" visionaries in the industry.

Phil set about sketching ideas onto paper and setting out rough plans. (Yes, sketching – no CAD in the initial stages). The first sketch designs explored the modernist approach of linear forms and simplicity and it soon became apparent that a more unconventional approach to this commercial build would be the answer.

While working on the revised ideas Phil was, via another client contact, put in touch with the owners of a building in Auckland that was being demolished. Skychefs NZ was demolishing their old premises and some very large and interesting timber work was available to purchase. Realising the potential re-use of some of these items, Phil asked the client to pre-purchase them even before the final designs were completed. It was a good example of the confidence and vision of CBNZ being able to visualise an idea working before it was physically built.

Several 15m long curved laminated beams were transported to Tauranga for the new office project, Phil's idea being for them to form the basis of an iconic look to the new building. With a grandfather who was a Master Carpenter/Joiner in Christchurch, and a father who was a farmer in Canterbury, Phil saw the potential of timber and its opposite, steel, being used to interesting effect.

Grant, Phil and Allan Shaw (then President of CBNZ) met several times to discuss the designs and after some good collaborative meetings related to internal office layouts, the building design was locked in. The design for the new building was to utilise all the skills available through Certified Builders and to showcase these where possible. The two-storey building has James Hardie flat panel walls, tinted office suite glazing and Colorsteel vertical cladding. It may look simple from the street but on closer inspection the detail is surprising. Walking onto the site one is confronted by ten tall, curved columns that are like guardians protecting what lies within. This was Phil's metaphor to the Maori Iwi who used to live in this area and their buildings and pa sites. The area is also called "The Landing", referencing where the first Maori tribes settled in the Tauranga area.

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The Resene NZ colours of the exterior are both earthy and bold to reflect the tradition of Certified Builders

The steel was coated in a smooth, fire retardant paint coating from Altex Coatings Ltd

Bold colours
The Resene NZ colours of the exterior are both earthy and bold to reflect the tradition of Certified Builders, but also their boldness in moving forward with innovation. The building has landed and is embedded in its site and appears strong and substantial, the tinted glass allowing subtle glimpses into the interior where movement and light can be observed.

Before construction on site began these curved, laminated panels had been sent away to be sandblasted, removing decades of dirt and grime and raising the grain of the panels. They were sealed and painted with a Resene paint system to enhance the timber effect similar to the ancient Japanese “shou sugi ban” technique.

Phil’s design was based around a steel column and beam exposed system harking back to the industrial use of the site and this is where some of the original steel was incorporated into the build. The steel was coated in a smooth, fire retardant paint coating from Altex Coatings Ltd due to the steel having a prominent role in the design aesthetic. Tauranga based Tiaki Engineering Consultants were commissioned to design the entire structural components of the building from the ground up – literally the slab, new concrete block walls, steel/ timber columns and beams, bracing and geo-tech work.

Time stamps
The old concrete slabs on site were removed and certain parts of the site had to be excavated for geo-tech reasons as the land had formerly been an ancient beach before reclamation of the harbour to create an isthmus to link parts of Tauranga together. Above the site is the Elms, an historic mission settlement used by the first missionaries to Tauranga. Over the course of 100 years or so the site below the Elms was used as a waste deposit area so certain minor artefacts were uncovered and are now housed in the NZCB building as a time stamp.

Walking up to the front door of the NZCB headquarters one will not find a normal opening door system. The door slides away as part of a slanted curtain wall design. This caused some consternation with the local council at consenting time due to its shape and being literally part of the glass curtain wall design shape. At all times the design was considered with disabled users in mind and Phil consulted with local experts during early design stages to ensure compatibility with all users. Moving through the entry reveals a polished concrete floor indicating a solid base – NZCB ethos. At this ground level is the second tenancy area, meeting rooms and other facilities that can be used by anyone in the building. Anyone wishing to walk, run or cycle to work can avail themselves of changing and showering facilities that have been provided.

The entry lobby is an atrium design with a connecting stair to the first floor where CBNZ is located. At ground level you are confronted by exposed steel columns and beams, timber ceilings and glazing. There are no ceiling lights visible with indirect lighting situated in the flanges of the steel beams which illuminate the area without glare to work surfaces. The ceiling has been kept lower than the usual 3.0 to 4.0m height but is 2.4m so more akin to residential spaces.

There is a large space dedicated to staff being able to relax with large, full sliding glass walls both internally and externally dividing the space into sitting, kitchen and outdoor entertaining zone.

Phil spent many hours with MRM and manufacturer Dimond Roofing to get the right connections

Phil worked with Nebulite Tauranga to create the right window suite for these areas – some of the sliding units meet at angles with no supports or posts to disrupt the space. Phil chose to keep the building height down using 220mm thick XLAM laminated timber floor panels resting on top of the steel beams, contributing to the fire design which incorporates a sprinkler system.

Up the stairs to the CBNZ tenancy, the space is not so much a reception area but is more like an after-work area where a trestle table sits with bar stools arranged around it. Behind this is a weatherboard-clad wall as if it had been dismantled from a house and re-inserted into the office. To one side are the “closed” office spaces for the CEO, personal assistant and the accountants. The other areas are as below with steel columns and beams but this time with a plywood modular ceiling.

The original block walls to the south and east have been left rough and sealed with a clear system to demonstrate the past/present/future thinking of CBNZ. The same full height glazed wall extends up to this area showcasing the external court yard and the historic site behind the building which includes a hillside covered in historic protected trees.

At the front of the building the CEO’s office juts out to the north and the staff facilities are at the front north side of the building allowing for views and sunlight. The roof extends over the outside entertaining area allowing for year-round use.

External cladding
The versatility of roofing steel is well demonstrated when it comes to the external cladding of the building –the material (Brownbuilt 900 in MagnaFlow) chosen for locality and suitability. The material was used on the roof areas but on the walls, it was reversed – both vertically and horizontally doing justice to the strength of this material. Detailing for these design aspects of the build were paramount with Phil spending many hours with MRM and manufacturer Dimond Roofing to get the right connections between steel cladding, Hardies product and aluminium. The curved columns were particularly important where they interacted with the external cladding with specific detailing required to satisfy durability and weather tightness.

The wall cladding creates shadows so the building changes its dynamics over the course of a day, going from defined light and shade when the sun is at an angle to the wall face, to soft vertical lines when the sun is shining directly onto the face of the vertical wall cladding.

At times some tricky design details on this special project for NZCB required some significant design changes but Hawes Building Solutions delivered competency throughout the duration of the job, their staff fully involved on delivering this unique building.

H G Rose Architecture

Established in 2002 through the amalgamation of two practices with a history going back to 1986.

The Practice offers a wide range of services and skills. While the majority of contracts are multi-service consultancies, and long term, the practice also provides single or multiple skills for one off projects.

The “can-do” friendly and proactive attitude has provided a solid and loyal client base, with excellent working relationships, and numerous repeat clients.

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Roofing/cladding Manufacturer:
Dimond Roofing - Auckland
Profile: Brownbuilt 900 in MagnaFlow
Colour: Grey Friars
Roofing Installer: Harkin Roofing (BOP) Ltd
www.harkinroofing.co.nz
Telephone: 07-575 2027

Who will win the country’s long-run roofing installer Games?

An idea hatched at the 2016 conference of MRM has resulted in a nationwide competition to test the skills and knowledge of the country’s metal roof installers.

The issues addressed by MRM were warranties and the workmanship of installers: rollforming member companies opted to tackle these issues by supporting a training/competition scheme to check out the performance of installers throughout New Zealand.

When the finals of the 2018 Roofing Games are held at the Roofing Association of New Zealand (RANZ) conference in July, the Roofing Games team will have processed 350 roofers with nearly all pledging to support the event going forward.
The Roofing Games have benchmarked the standard to be achieved across the industry and roofing companies have been quick to recognise the value of this exercise to review the skill level of installers.

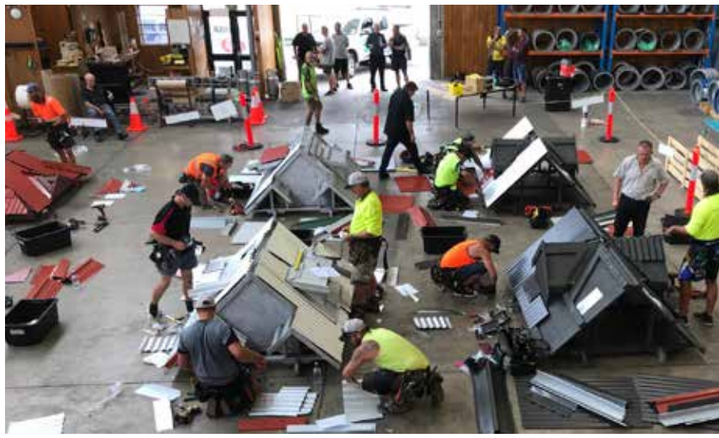
Four modules based on the RANZ flashing handbook which features the commonly found details in roofing, have been transported to every participating manufacturing site in New Zealand for a session of competition/training.

The travel portion of this project is fully paid as an MRM initiative but support has also come from sponsors New Zealand Steel, Pacific Coilcoaters, Konnect and Edging Systems. The cost per participant has been between $130 - $150 which, when measured as a saving from one call back on each participant’s work in the future, is viewed as hugely economical.

Some installers signing up for the Roofing Games have been reluctant to work in front of an audience but have then settled into the one-hour test on the module without further issues. The installers work individually on the module and their work is judged on three sets of criteria – health and safety, trade practice and quality of installation.

For skilled fixers the prize is $5,000 worth of travel vouchers and for intermediate-level fixers $2,500 of travel vouchers.
Bringing this roadshow event to the North and South Islands, Max Brough and Noel Sands say installers have all enjoyed the learning experience, especially the competitive element of the project.

The reception at each location has seen factory staff, other roofers and office staff attending which has been encouraging given what MRM has set out to achieve.



The team building element for each participating roofing company has been significant and is a positive movement towards the new competition in 2019.

ROOFERS AND ROOFING COMPANIES ARE ENCOURAGED TO BEGIN PREPARATIONS FOR THE ROOFING GAMES TO BE HELD IN 2019

HILLARY'S HUT

Pacific Coilcoaters provided their ColorCote® AlumiGard® product in aluminium and Akzo Nobel made a special one-off paint to match the original colour of the hut.

Mike Burgess at the iconic sign post at Scott Base

Re-roofing Hillary's hut at Scott Base
An iconic piece of New Zealand's history – Sir Edmund Hillary's hut at Scott Base – has been completely restored with roofing and cladding installed late last year by specialist standing seam roofer Mike Burgess, who talks to Jenny Bain.
The hut is an important link to Hillary's famous tractor trip to the South Pole and was built under his guidance by his team in 1957, now sitting among a group of flat-roofed buildings making up New Zealand's scientific facility at Scott Base.
Restoration of the hut – also known as the TAE/IGY hut – has been the responsibility of the Antarctic Heritage Trust (AHT) which cares for all the expedition bases of historical significance on the Ross Sea built by explorers Borchgrevink, Scott, Shackleton and Hillary.

Largely used for storage since it became uninhabitable in the 1980s, the hut has undergone total restoration over the Antarctic summers of 2016 and 2017 after $1 million was raised by the trust to bring the building back to life. Under guidance from conservation architect, Pip Cheshire of Cheshire Architects, Hillary's hut has been painstakingly restored, ensuring the preservation of precious artefacts from the era of early exploration.
Well known to architects for his knowledge and skill in the secret fix, European style of roofing, Mike was the installer of choice for the final stage of the restoration project, having worked recently with Cheshire Architects on Dune House, a private residence at Tara Iti and SKHY apartments in Khyber Pass, Auckland. Mike can attest to the significance and privilege of being assigned for this work at the South Pole. As Project Manager for RANZ member Architectural Metalformers, it was agreed that Mike's time and all services required to complete the task including provision and transport of materials and accessories, manufacturing time and technical input would be donated to the trust for the project.

Pacific Coilcoaters provided their ColorCote® AlumiGard™ product in 1200mm wide 0.9mm 5005H34 aluminium and Akzo Nobel, one of Pacific Coilcoaters' key paint suppliers, made a special one-off drum of paint to match the original colour of the hut. Architectural Metalformers manufactured the sheets. Julian Wai from Pacific Coilcoaters assisted Mike in the decision making on the material to ensure a product was chosen to be malleable enough in such extreme conditions. Sika New Zealand and Nexus Foams also donated materials for the project, foam being specified to inhibit any possible water ingression from melting snow through the standing seam sheets. This consignment of materials was air lifted to Scott Base to await Mike's arrival.

From the get-go Mike was fully absorbed in the various design aspects "required to be sympathetic to the AHT brief to match the original building" for a painted, waterproof aluminium roof with new vertical battens painted in the original bright orange. New macrocarpa battens were cut and painted to give the original look of the hut without compromising their integrity.

During last season's remedial works all the asbestos was removed from the interior of the hut and the AHT built a new plywood roof over the existing old roof so if required in the future, and if new materials or sealants are available, they could remove Mike's new roof and fix the lower roof. Mike said this was interesting as he needed to mark up all products with AHT 17/18 so any future conservators knew what to save or what to remove in the future. The brief for AHT is to always preserve as much originality to the buildings as possible, therefore when the original strong backs could be reused over Mike's new roof those remained.

The original hut had been modulated in Australia and flown via Christchurch to Scott Base for Hillary to assemble as living quarters. It was fully water proofed and robust at the time but the ravages of the Antarctic climate had rendered it uninhabitable. Twentieth century materials and systems should see the roof last 35 years but it will likely last 50 – 100 years according to Al Fastier, the programme manager for the trust.

Mike flew to Scott Base on November 13 in a US Airforce C-17 Globemaster in prestigious company. His fellow passengers included the US Ambassador to New Zealand, Scott Brown, the head of the US based National Science Foundation along with its board of directors and a four-star US general, second in charge of the US Pacific fleet based in Honolulu. Flight duration was 5 ½ hours.

It may have been "summer" in Antarctica but Mike was to immediately discover some challenges ahead to install a new roof in sub-zero temperatures.

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Mt Erebus can be seen in the distance on a clear day

Says Mike: “Nothing can prepare you for the challenge of working in temperatures that averaged from minus 8 to minus 15 degrees but on some days dropped to minus 30 degrees. I was completely kitted out from head to toes in Antarctic New Zealand gear and this requires excessive layering of the under garments. I would have a base layer, two middle layers and then an outer jacket: depending on the temperature you may wear your ECW (extreme cold weather) gear which is normally reserved for expeditions off the base.

“Assisting me on the re-roof was Antarctic Youth Ambassador from the Sir Peter Blake Trust, engineer Chris Ansin. We would check the weather at our daily toolbox meeting and layer our clothing accordingly right down to leggings, footwear, boots, buffer goggles, beanies and gloves.

“There were days when I had to sacrifice being warm to achieve the perfection the job required. As an example, although we had gloves they would often be too restrictive and I would work with bare hands for a limited amount of time before they started to freeze. Then I would crack hand-warming gel packs and keep them in my pockets to warm up my hands as required.

“The kit alone weighs 10kg so add to that a tool belt and harness – we had to walk back and forth from Hillary’s hut to where we were folding the aluminium sheets (using a Wuko tool) at the

Although we had gloves they would often be too restrictive and I would work with bare hands for a limited amount of time before they started to freeze.

Hillary Field Centre 500m away. We had to carry the sheets over to the roof each time as they can’t be left on the snow and sometimes we needed to peel off layers of clothing rather than add layers. It certainly was an exercise in tolerance.

“Yet here I was in this magnificent environment, sharing the mystique and aura of Scott Base and Ross Island. I am well and truly bitten by this opportunity to work on something of such importance to New Zealand. A backdrop to the base is Mt Erebus which puffs away and I was there for the memorial to AirNZ flight 901 which crashed on the mountain on 28 November 1979.”

Mike seized this once in a lifetime opportunity to immerse himself in the Antarctic experience during his 13 days on Scott Base, six of which were taken up with completing the hut. Twenty-four hours of daylight meant evenings could be spent exploring beyond the base. Mike completed the obligatory Antarctic field training (digging a camp in ice, sleeping on the ice in a polar tent, setting up an ice kitchen) and was then able to venture to Observation Hill or the US base at McMurdo Sound, 45 minutes away. On these night excursions he was able to ice climb to explore caves on the Erebus Glacial Tongue, walk the Pressure Ridges to view giant fissures and cracks rising up out of the ice shelf, also taking in Castle Hill and Crater Rock. It was all about absorbing what life must have been like for those early pioneers.

Adding to Mike’s experience, Nigel Watson, chairman of the Antarctic Heritage Trust, accompanied Mike on a tour of all the expedition huts including the original Discovery hut for a privileged view of the historical artefacts – mutton carcasses still hanging, biscuits in a remarkable state of preservation – even food still perfectly preserved on the stove top from the day the last inhabitants ventured out into the cold and never returned.

Cheshire Architects

A leading advocate for architecture, Pip Cheshire is one of many key project consultants for the Antarctic Heritage Trust which is managing what is the largest heritage project ever undertaken in the polar regions – restoring the huts and artefacts of the continent’s first explorers.

Cheshire Architects is a partnership of directors Pip and Nat Cheshire, delivering masterful special projects across a diverse range of settings from luxury retreats to large scale civic developments such as Britomart and the City Works Depot. With a particular passion for conservation, Pip Cheshire was a NZIA Gold Medal winner in 2013 and has enjoyed a long and distinguished career. Another project of national and historical significance is Pip’s design of Rore Kahu, a building near Kerikeri,designed to commemorate the arrival of the Anglican clergyman Samuel Marsden to New Zealand over 200 years ago

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Telephone: 09 269 7279
E-mail; info@archform.co.nz
http://archform.co.nz/
Profile: ColorCote® AlumiGard® product in 1200mm wide 0.9mm 5005H34 aluminium
Custom Paint Supplier: Akzo Nobel, made a special paint to match the original colour of the hut.

VORSTERMANS ARCHITECTS: HILLSIDE HOUSE, WELLINGTON

"The architects have delivered a charming, 135 square metre family home that is cleverly planned and thoughtfully detailed – an excellent example of affordable housing done well."

Building a stylish and affordable home on a steep, south-facing site was a big challenge for Vorstermans Architects. But it's one they met so well that the 'Hillside House' recently won a New Zealand Institute of Architects (NZIA) Wellington Architecture Award.

As the NZIA jury noted: "Wellington architects are often presented with difficult site conditions and weather considerations.

"The architects of the Hillside House responded to these challenges, including a steep, small, south-facing section and a road hard up against the northern boundary, artfully."

The jury added: "The architects have delivered a charming, 135 square metre family home that is cleverly planned and thoughtfully detailed – an excellent example of affordable housing done well."
When Vorstermans Architects were called in, the clients had already been presented with a design by a group housing company but didn't like the idea of the house being dug into the hill, creating dark and cold rooms. The excavation and retaining necessary for this design would have added up to $70,000 to the project. In light of this, they wanted to minimise any earthworks.

The site was in a recent subdivision and in a high wind zone. It has views to Wellington Harbour facing southwest and rises to the road steeply to the northwest. Therefore it was important that the design helped to maximise sun coming into the house while making the most of the view.
With a section size of 403sq m, site coverage was also a factor, meaning a maximum footprint of 140sq m.

Within these confines, the clients wanted an affordable home with three bedrooms plus an office. Vorstermans Architects' concept was to raise the house in order to maintain views of Wellington Harbour, while minimising excavation. This is in stark contrast to most spec home companies operating in the area.

To achieve this, the main structure is anchored to the hill with a small retaining wall and supported along its front edge by poles, which help the design to float above the land. The idea is that once the garden underneath develops, this will be enhanced by the posts appearing like tree trunks thrusting out from the ground level flora.

Having a carport underneath rather than building an expensive garage allows the two-storey part of the home to hover above the land, and finishing the drive in gravel gives the house a soft edge and less of an urban subdivision feel.

Stepping the house down the hill enables it to have a single roof plane, angled up to the north.
With its roofing and cladding in ColorCote® ZinaCore® G10 black, the home has a strong, textured form. The tray roofing and cladding system gives the dwelling a texture that is different to the surrounding landscape to emphasise the human craftsmanship among the smooth hills and vegetation.

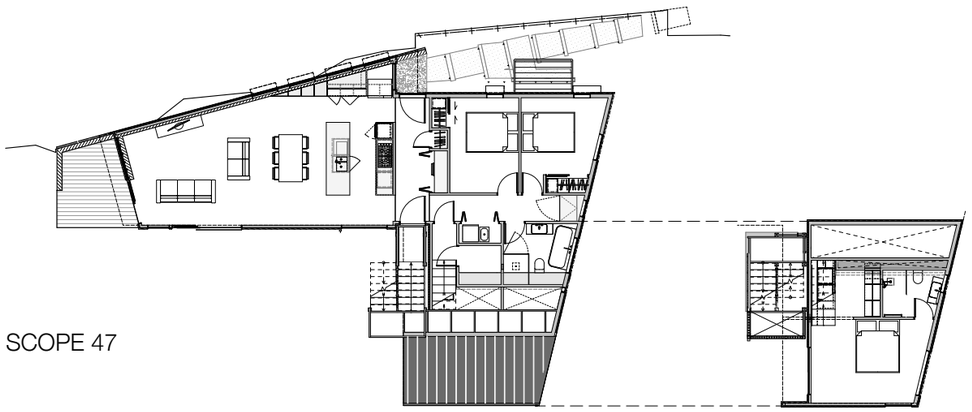
Particular attention was paid to wall-roof junctions and windows lining up with metal pan widths, which set a strict grid.

The only colours on the exterior are two entry doors in bright orange and bright yellow. All other materials have a natural finish – ply soffits and timber stair balustrades.

The home is laid out as two wedge arrangements meeting either side of an entrance lobby. The first wedge contains the public areas: living, dining and kitchen with ceiling, walls and floors wrapped in plywood that has exposed screw fixings in a neat set-out. The plywood, with a black HPL finish, is designed to be an integral part of the architecture.
The second wedge houses the private areas: bedrooms and amenities split over several stepped levels. The private areas are predominantly white, in plasterboard and tiles.

Unique and different, thereby giving the local environment a richness which may be unexpected

“It is with their openness to design ideas and a quest for something unique and different that we have been able to deliver”.



The home steps over the site, fitting under the one roof which rises to the north, meaning the clerestory windows capture plentiful sun that spills deep into the kitchen and dining areas during winter and summer. The lounge is pushed as high and as far west as possible to maximise views down to Wellington and over the harbour.

Internally, the home mixes natural materials: blonded plywood and exposed masonry blocks with painted plasterboard walls. The open plan living area is the dwelling’s main feature with stunning harbour views and a delightfully unique lime green, steel-framed kitchen and LED lights that provide the ambience for casual living and entertaining.

Vorstermans Architects says, “The dwelling, we believe, creates an architectural statement in this landscape that is becoming more powerful as more group house company dwellings grow around the property. This house, while modest in size, we would describe as a hidden gem: it will be a surprise to most that reside in the area as unique and different, thereby giving the local environment a richness which may be unexpected.”

Throughout the house, the architects have added surprise design features such as the clever use of an angled wall between the two levels and bathrooms, and maximised the use of space and storage.

Vorstermans Architects adds, “Our client was bold to approach us initially as they were bored by their initial plans, which were devoid of any design or excitement.

“It is with their openness to design ideas and a quest for something unique and different that we have been able to deliver this architectural solution that will continue to enhance their quality of life both by providing a warm and comfortable environment to live and entertain in, and also by continuing to surprise them with their unique solution with such amazing light, atmosphere and awesome views.”

Vorstermans Architects

The company uses its commercial and residential experience to produce quality designs and create beautiful buildings. “We aim to use our knowledge to positively improve and change people’s everyday lives both at work and at home, and their experience of the environment. We vow to leave the environment in a better situation than we found it.”

It strives for design excellence in all projects no matter how big the project or small the budget. “We aim to make the design process enjoyable for everyone involved by creating positive and exciting experiences and by removing traditional designer/client barriers that create unnecessary stress. We pride ourselves on timely delivery, exceeding our client’s expectations and providing a beautiful built environment for our clients for years to come.”

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DALMAN ARCHITECTS

The Salvation Army Christchurch City Worship and Community Centre is at last a place the City Corps can call home.

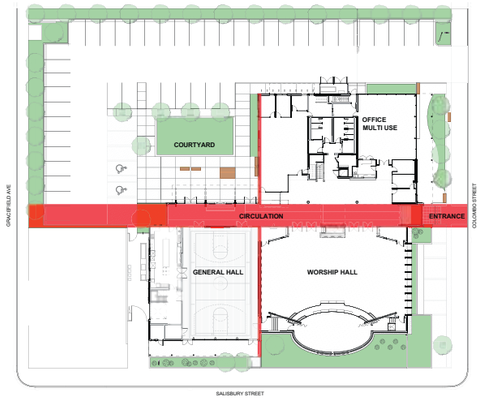
The design of the Salvation Army Christchurch City Worship and Community Centre incorporates a number of religious symbols

The project initially commenced in 2007, after the Salvation Army outgrew its former Durham Street building. They had purchased their ideal block of land on the corner of Colombo and Salisbury Streets, and engaged Dalman Architect's to complete the design. After a number of hurdles, the building was finally completed in 2017.

Shortly before the lodging of building consent, the Christchurch earthquakes put a halt to progress. With the land located in the central city cordon being inaccessible, demolition of the existing buildings was delayed. Immediately after the earthquakes the building code seismic standards were changed which resulted in higher engineering requirements increasing building costs. Consequently, elements of the building had to be redesigned.

When the project initially began, Dalman Architects were asked to create a spiritual facility for the Corps that was to be a permanent home for the congregation and centralised the Salvation Army's Christchurch based functions. The building needed to meet the functional needs of a contemporary church while remaining welcoming to its greater community.

When asked what the most compelling symbol of their Christian faith was, not surprisingly, the Salvation Army said, 'the cross'. Conceptually, a cross has



Site and ground floor plan illustrating the design concept of a cross laid down on the site

been laid down on the site. People enter through the main axis of the cross which forms a gallery and the key circulation path through the building. The building spaces are then positioned around the cross. A 350-capacity worship hall takes a prominent position on the Colombo and Salisbury Streets corner. On the other sides are the offices and multi-purpose meeting and function rooms, a three-quarter size basketball court / general hall with a large commercial kitchen attached, and a sunny outdoor courtyard sheltered from the easterly 'prevailing winds'.

A floor to ceiling glazed cross is positioned on the Salisbury Street side of the worship hall. It proudly announces the building's spiritual function and is lit up with colour changing LED lights at night. To Colombo Street, the double-height worship space forms a 'portal', conceptually welcoming people to the world of Christ. Guiding people on their journey are eleven tall vertical concrete fins representing the eleven key beliefs of the Salvation Army - The Articles of War or Faith.

On each side of the worship hall double height verandah's offer the spiritual concept of giving shelter. The verandah's are supported by twelve tall steel pilotis representing God's disciples.

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The Worship Hall overlooks Colombo Street and has a capacity of 350 people

One of the key products in the design was Espan® 470, selected for its trough and rib design to be used for cladding

The glazed cross of the Worship Hall, lit up at night, announces the building's spiritual function

Eleven concrete fins represent the eleven key beliefs of the Salvation Army - The Articles of War or Faith (Page 19)

The building is clad in a varied palette of standing seam steel, terracotta tiles, glass and natural timber. The natural materials follow the truthful down-to-earth nature of the Salvation Army beliefs and community services, and complement the surrounding residential and commercial buildings. While some materials and design elements of the building were altered after the earthquakes to meet the revised structural design, the key conceptual ideas remain.

One of the key products in the design was Espan® 470, selected for its trough and rib design to be used for cladding. The system enabled the cladding to be fixed with concealed fixing clips, leaving the flat-pan free of nail heads and joins. More importantly, the lightweight system meant deeper foundations were not required to carry the weight of similar heavier products, reducing building costs.

The Colorsteel finish of the Espan® 470 provided the Salvation Army with a low maintenance, and durable finish.

Critical to the design of the building was the acoustic performance of the spaces. Many of the function and multi-purpose meeting rooms can be in use at the same time. Feedback has been excellent. Testament to this, the New Zealand Army Band recorded their latest album in the Worship Hall, describing it as a great place to play.

The Salvation Army Christchurch City Worship and Community Centre was fully funded by the Salvation Army and the congregation, with no public fund raising campaigns, and was completed under budget.

The finished design sits well within the local community environment, and provides a practical and functional solution for the Salvation Army and their many community group users. It is a building that is well utilised, and one the Salvation Army Christchurch City Corp are proud to share.

Dalman Architects

Dalman Architects vision is to create enriching spaces. The studio was established in 1997 and consists of a team of 27 registered architects, interior designers and architectural technicians who are based at their Christchurch and Auckland offices.

They undertake projects throughout New Zealand and Asia-Pacific across a number of sectors including public buildings, hotels, hospitality and tourism, commercial, residential, education, and community facilities.

The studio believes people are shaped by the spaces they inhabit – which is achieved through innovative thinking, a responsive process and a focus on excellence.

They view architecture and interior design as both an honour and responsibility.

With 20 years behind them their focus has always been firmly fixed on client outcomes. They go above and beyond in how they work and what they create to enrich the way people live, work and play.

Dalman Architects are New Zealand Institute of Architects and New Zealand Green Building Council members.

Architect and Interior Design: Dalman Architects
Christchurch, Auckland
Telephone: 03 366 5445
E-mail: design@dalman.co.nz
dalman.co.nz
Main Contractor: Arrow International
Roofing/cladding Manufacturer: Metalcraft Roofing
Roofing Profile: Asymmetrical rib T-Rib profile
Zincalume® 0.55mm COLORSTEEL® Endura®
Cladding Profile: Espan® 470 0.55mm
COLORSTEEL® Endura®
Colour: Sandstone Grey
Roofing Installer: Graham Hill Roofing
Christchurch
Telephone: 03 343 1030
E-mail: admin@ghroofing.co.nz
http://grahamhillroofing.co.nz
Photo Credit: Stephen Goodenough

GREEN STAR, HOMESTAR AND METAL ROOFING.

NZMRM and NZ Steel are members of the NZ Green Building Council

We have previously discussed the long process of having metal roofing recognised by NZGBC as eligible for credit under the MAT-8 rating in the Green Star accreditation system which recognises the sustainability of products used in a building and their effect during the use and life (and after life) of the building.

The Green Star system was aimed at commercial buildings, initially offices, but subsequently other commercial buildings and schools. Some of these of course have a relatively small amount of steel in the roof cladding if the structure is not also steel. The main issue against NZ made steel – which is used for the majority of metal roofing and wall cladding – was that it contained little or no post-consumer scrap, which NZGBC regarded as important from a sustainability viewpoint, even though NZ Steel's production process has a number of very sustainable aspects, which may have gone unrecognised.

NZMRM and NZ Steel argued against this for a number of years and eventually MAT-8 was changed to remove this requirement, while still including some very demanding criteria before products can comply. Even so most of the criteria are aligned with the use of the building and its effect on the environment, rather more than the materials used in the building alone.

After the introduction of Green Star (along international principles, and aligned with some other international rating systems, it was realised that there is also a need to encourage sustainable homes, and there are schemes for such less complex buildings elsewhere e.g. (UK Code for Sustainable Homes and Energy Performance Certificate system for houses, mandatory on house transfer). Indeed it looks like NZ is well behind most of the OECD in this respect; just as well it is only quite cold here, not literally freezing mostly. NZGBC developed Homestar to fill this gap. The first version of this was quite basic and awarded up to 10 stars for various aspects of house sustainability, but no real reference to the building materials used.

Then after some revisions to Homestar, in 2017 Version 4 was issued. This contains a huge expansion in ways to obtain credits and specifically some features of the materials used.

We are going, in this first article, to discuss how to obtain Homestar credits under 4 different ratings. Note that there are still several mandatory criteria that must be met before any building can be eligible for a Homestar rating above 6 stars. These cover thermal performance, ventilation, moisture control and efficiency of showers and toilets.. And of course while we are going to look at the credits available by use of metal roofing there are a lot of other ways to obtain points in the 192 page manual.

Note the entire manual can be downloaded free from the NZGBC website, so I am including relevant extracts only.

So what are the features of metal roofing that provide your Homestar Assessor with information they can input to the Calculator to derive points for your building?

The four criteria we consider particularly relevant to metal roofing are WST-1 Construction Waste Minimisation (up to 5 points); MAT-1 Sustainable Materials (up to 10 points); and for houses with rainwater collected from a metal roof – WAT -2 Sustainable Water Supply (up to 4 points) and STE -1 Stormwater Management (up to 4 points)

All this information (and much more) is available from the NZGBC website under Homestar. To avoid using too much space, we are going to go through these and summarise the points.
All work in the same way -

- What is the credit description;
- What is its purpose
- How to obtain points

And

- How metal roofing will allow you to comply and get points towards the final rating.
  Most of this is summarised here from the Manual.

WST-1 Construction Waste Minimisation 5 points

Aim: To encourage and recognise effective waste management practices by having a waste minimisation plan in place during construction and/or major refurbishment. To encourage and recognise a reduction in the amount of waste generated onsite during construction and/or major refurbishment.

Design Rating
Up to five points are awarded where the following can be demonstrated during construction and/or refurbishment of the dwelling:

Site Waste Minimisation Plan

(1) A Site Waste Minimisation Plan (SWMP) has been implemented and adhered to in accordance with Resource Efficiency in Building Related Industries (REBRI) guidelines. Site waste monitoring must be included in the plan in order for any other points to be achieved.	**1 point**
(2) The SWMP targets limiting landfill/ cleanfill waste to 15 – 20 kg per m2 of gross floor area for the whole construction/ refurbishment project or 60-69% diversion.	**1 point**
The SWMP targets limiting landfill/ cleanfill waste to 10 – 14.99 kg per m2 of gross floor area for the whole construction/refurbishment project or 70-79% diversion.	**2 points**
The SWMP targets limiting landfill/ cleanfill waste to under 10 kg per m2 of gross floor area for the whole construction/refurbishment project or 80-100% diversion.	**3 points**
(3) The Site Waste Minimisation Plan (SWMP) includes provisions for on-site waste sorting, with a minimum of 3 sorting stations.	**1 point**

Or - Built Rating

Up to five points are available for this credit where it can be demonstrated that the waste generated from construction activities has been reduced or diverted from landfill and cleanfill. Points can be achieved via one approach only.

Reduced Construction Waste

(1) A Site Waste Minimisation Plan (SWMP) has been implemented and adhered to in accordance with Resource Efficiency in Building Related Industries (REBRI) guidelines. Site waste monitoring must be included in the plan.	**1 point**
(2) Where 15 – 20 kg is sent to landfill/ cleanfill per m2 of gross floor area for the whole construction/refurbishment project.	**1 point**
Where 10 – 14.99 kg is sent to landfill/ cleanfill* per m2 of gross floor area for the whole construction/refurbishment project.	**2 points**
Where less than 10 kg is sent to landfill/ cleanfill* per m2 of gross floor area for the whole construction/refurbishment project.	**3 points**
On-Site Waste Sorting	
(1) An additional point is available where on-site waste sorting is included in the Site Waste Minimisation plan, with a minimum of 3 sorting stations.	**1 point**

Built Rating

All Projects

Monthly waste and RRR reports for the entire duration of construction works are to be signed and witnessed at each stage of reporting by senior company representatives of the waste and RRR contractor. These reports will clearly state the reported level of RRR that has actually taken place.

Reduced Construction Waste

Photo or copy of the completed waste records based on monthly reports for the whole of site which display the weight of waste sent to landfill/cleanfill measured in units of kg/m2.

Discussion points (by NZMRM)

As we read this, you can obtain points in the Design phase by setting targets for waste reduction / diversion and having a Site Waste Minimisation Plan to show how you will achieve these targets. You can achieve another point by specifying on-site sorting stations. In the Built phase you will need to have implemented a Site Waste Minimisation Plan and have waste reports from a contractor to show that you have achieved a certain waste reduction or diversion benchmark.

Now, what we know for metal roofing (long run or tiles) is that unlike most of the other materials used, the

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product is made specifically for the job – in the case of long run it is cut to length in the factory and for tiles the right number are supplied. On-site trimming of corners and flashings (if appropriate) results in minimal scrap which is able to be recycled – and should be removed for this purpose by the installer. So, site waste from roofing will be minimal and in fact none should be sent to landfill/cleanfill, thus helping to achieve one of the higher waste reduction or diversion benchmarks. We anticipate that use of metal roofing, along with an implemented site waste management plan and smart decisions on other materials used, should help achieve at least 4 points in this credit.

MAT-1 Sustainable Materials 10 points

Aim:To encourage and recognise the specification and use of responsibly sourced materials that have lower environmental impacts over their lifetime.

Credit Criteria
Up to ten points are available where there is a selection of reused, eco-preferred (see definition right) or responsibly sourced (see definition right) materials as follows:

(1) One material category is eligible	**Up to 2 points**
(2) Two material categories are eligible	**Up to 4 points**
(3) Three material categories are eligible	**Up to 6 points**
(4) Four material categories are eligible	**Up to 8 points**
(5) Five or more material categories are eligible	**Up to 10 points**
(6) This credit is deemed Not Applicable for dwellings that have been inexistence for more than two years from the date of assessment and have not undergone major refurbishment from this date.	**N/A**

Assessment

This credit is only applicable to new dwellings that have been built, and existing dwellings that have undergone major refurbishment within the previous three years (from the date of assessment).
Points are awarded for each of the following material categories only where at least 50% of the total material content is reused, eco-preferred or responsibly sourced. Up to two points can be awarded to each material category depending on the means of compliance. Table (right) outlines each material type where NZ Steel products would be included and the measurement unit to establish that 50% of the content is compliant.

Material categories consider materials that are typically used in large volumes in construction. While Home Star ratings apply to individual homes and apartments, in large developments of multiple houses the total material volumes can be considered rather than a per house basis.

(8) Non-timber wall cladding	**Square metres**
(9) Non-timber roof cladding (e.g.long-run steel roofing)	**Square metres**

Means of Compliance with MAT-1: Sustainable Materials

Type	Points available	Definition
Reused material	**2**	Research has shown that reuse of existing products provides the strongest environmental benefit; therefore reused items (including purchased second hand) are awarded 2 points.
Approved eco-labels as per NZGBC website	**Up to 2**	'Eco-labelling' is a voluntary method of environmental performance certification and labelling that is practised around the world. An 'eco-label' is a label which identifies overall environmental preference of a product or service within a specific product/service category based on life cycle considerations. An eco-label is awarded by an impartial third-party in relation to certain products or services that are independently determined to meet environmental leadership specifications. Calculator points are awarded where a product holds an eco-label recognised by the NZGBC. The list of approved schemes is available on the NZGBC website (www.nzgbc.org.nz). Scheme.
ISO 14001	**1**	An international standard published by the International Organisation for Standardisation (ISO) which specifies a set of management standards that help organisations administer and control a company's environmental impact and compliance with regulations. 1 Point is awarded when products within a material category is sourced from a ISO14001 certified organisation.

Audit Documentation

Design Rating

Drawing(s) or specification(s) clearly showing selected products;
- Accompanied by product data sheet or certificate demonstrating compliance; AND
- Completed Materials Calculator tab.

OR
If exact products have not yet been selected, specification extract(s) stating requirements to be met.

Built Rating
Invoices or supplier/installer confirmation letters clearly showing selected products.
- Product data sheet or certificate demonstrating compliance of each product claimed; AND
- Completed Materials Calculator tab when targeting 'materials which don't have 100% compliant products.

Discussion (NZMRM)
As covered in our MAT-8 Green Star discussion, metal roofing made from steel manufactured by NZ Steel complies with items 2 and 3 and so are eligible for 3 points. Because metal cladding is made to size for each installation (which minimises waste) the use of reused metal cladding is not practicable (or indeed desirable from a quality viewpoint).

So these two criteria (WST and MAT) relate to and are inherent in the use of metal roof and wall cladding in any house.
The remaining two criteria relate to houses where rainwater is collected from the roof for all household purposes, as occurs over the whole of New Zealand outside urban areas (where doing so is not allowed for commercial reasons).
Water collected from unpainted metal roofing made with NZ made steel or metal painted in New Zealand has been demonstrated to be safe to drink and contain no unacceptable chemicals. Such water is suitable for all household purposes.
This may not be true for product painted outside NZ or for other roofing products.

WAT-2 Sustainable Water Supply 4 points

Aim; To encourage and recognise reducing a dwelling's demand on water supplies through the collection and use of rainwater on and around the dwelling and by promoting responsible water use behaviour through separate metering of apartment water consumption.

Standalone and Terraced Dwellings

1) The dwelling has a rainwater harvesting system with a minimum connected roof catchment area of 30m2 per dwelling, connected to a tank with a minimum rainwater holding capacity of 500L per dwelling, with at least one connection to a tap for outdoor water use.	**0.5 points**
The rainwater harvesting system is connected to, and can meet all or part of the water use demand from, laundry, outdoor water use, toilets and dishwasher.	**Up to 3.5 points**

Credit Criteria
Up to four points are available for dwellings which reduce the consumption of potable water in and around the dwelling through the collection and use of rainwater. A water calculator is used to estimate the percentage of household water demand able to be met with rainwater:

Distribution of Rainwater Use Points

The credit then discusses the various ways in which water can be used in houses and allocates points up to 3.5 for 75% of water being rainwater collected.

Discussion (NZMRM)
While some dwellings may collect rainwater and only use it for e.g. watering the garden, or for restricted household, use the vast majority of rural rainwater collection is used exclusively for all household purposes and so qualifies for maximum points. The manual shows how to calculate points for lower % use.

Water Calculator
The Water Calculator includes calculations for WAT-1 (Water use in the Home), WAT 2 (Sustainable Water Supply), and EHC-2 (Hot Water Heating). Central to this calculator is the household water use summary, which estimates daily per person water use in litres for the dwelling.

The Homestar Assessor will use this Calculator as part of the overall assessment.

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STE-1 Stormwater Management
4 points

Aim; To encourage and recognise houses/sites that reduce stormwater run-off from buildings and hard surfaces, in order to mitigate flooding, pollution and stream erosion.

Credit Criteria

Up to four points are available for managing site and roof stormwater runoff.

Site stormwater runoff

Up to 2 points are awarded where it can be demonstrated that a percentage of the site (not including area under roof) is permeable or designed to capture stormwater runoff through permanent on-site stormwater management systems e.g. vegetated swale, on-site rain garden, pond, sandfilter or stormwater detention tanks.

But this also covers the detention of stormwater from the roof.

Roof stormwater runoff

Up to 2 points are awarded where the stormwater associated with the roof is effectively managed on site with either a living roof or designed to capture stormwater runoff through permanent onsite stormwater management systems e.g. vegetated swale, on-site rain garden, pond, sandfilter or stormwater detention tanks.

All Typologies

(2)	Equivalent to 80% (or more) of the total roof area.	**1 point**
	OR	
	Equivalent to 80% (or more) of the total roof area,	
	AND The first 10mm of any storm event is retained on-site. Living roofs and any on site infiltration systems meet this by default. For other stormwater systems see guidance.	**2 points**

Discussion (NZMRM)

We would argue that roof rainwater collection and retention systems by definition comply with this last as long as retention / detention tanks are sized appropriately (see manual for detailed advice).

Summary and Conclusion

The Homestar accreditation system was designed originally to encourage people building new houses to consider how to make the whole project as sustainable as possible, using some quite basic criteria. This followed more complex models used elsewhere (and note that in the UK, such a rating is mandatory when selling or renting a house). Homestar originally did not consider things like actual materials, more the sustainability of the house as built.

This most recent iteration now aligns more with Green Star in making allowance for the sustainability (both inherent and in use) of the building materials. We have considered only those which are affected by the use of metal roofing (and although not covered as such) wall cladding.

We acknowledge with thanks the comments from the staff of NZGBC involved in Homestar, who have read and checked this article.

Next time we will revisit Green Star.

DARRELL BACK

I likened industry to a family,
we are a unit that has strong ties to
our suppliers and each other,

After almost 50 years in the roofing industry, Darrell Back, the immediate past president of the NZMRM, has seen a lot of changes but he has always regarded his industry colleagues as “family”. As Darrell says, “As president I likened industry to a family – we are a unit that has strong ties to our suppliers and each other, and all this helps to provide for the heathy growth of our industry. If we are going to grow, then we must have a strong base.”
And family is a big part of Darrell’s business – Taranaki Steelformers – with two of his four children – sons Chris and Brendon – working in the firm.

Born in 1947 at Patea, Darrell grew up on a dairy and beef farm, and went to a country school before going on to St Pats Silverstream for three years. He then spent five years doing a carpentry and joinery apprenticeship.

Fifty years ago he married Beverley Norman – just before he entered rollforming in 1969 when he went to work for Gerald Burton at L G Pope & Son, which he managed for the next 10 years.

“At that time, I was involved with the earlier Roofing and Cladding Association and also the Spouting and Downpipe Association. Those where great times. We used to sit down and set the retail price and then we would go to the nearest bar for some serious and meaningful discussion – and then try not to miss our flight home.

“It was a different time; not regulated with all the bull we have today.”

After working at L G Pope & Son, Darrell spent three years with SteelPro before starting Taranaki Steelformers in 1983.

Brian Cosgrove, who was on the NZMRM executive for 23 years and helped to write the Metal Roofing Code of Practice, remembers those times well. Brian, who served two years as President and is an NZMRM Life Member, says, “My memories of Darrell Back go right back to the early 1970s when he was working for a friend of ours called Gerald Burton at L G Pope & Son Ltd in Stratford. Gerald Burton was on the inaugural Executive of the NZMRM back in 1967, previously known as the Corrugated Iron Association of New Zealand, which was set up by Ted Howarth of Dimond Industries as its first President.

“When Darrell set up his own longrun iron business, it was not long before he became a member of the Executive and started taking a strong interest in the needs and direction of the Association for the future success of manufacturing a quality steel roofing product for the New Zealand market.”

Brian adds, “Darrell Back was a strong driving force for our Association and continued the direction set up by the Executive Committees over the earlier years in encouraging all members to attend the Annual Conferences, which were extremely well supported over many years, with over 75 per cent attendance in most years. Darrell, with his wife Beverley, son Chris and daughter-in-law Kirsty were all great supporters and promoted the Association as one big family and achieved great support from all members of the Association throughout New Zealand.

We set out to produce a Code of Practice which was to lay out best practice in roofing.

to produce a Code of Practice which was to lay out best practice in roofing. This has been very successful and is widely used by all in the industry today.

“We believed that the fixing side of our industry should have some form of association and provided funds to set up RANZ, which has grown to be a driving force in roof fixing.

“I believe that a well-run MRM will create a strong industry as it is a marriage between the producer – the rollformers – and the suppliers to the industry.” The business that Darrell started 35 years ago, Taranaki Steelformers, is now a major part of the region’s building industry.

Taranaki Steelformers has sons Chris and Brendon managing different branches and is a company proud of its reputation for high quality products that can enhance architecturally designed homes but also withstand anything the Taranaki weather and environment can throw at them.

“We all thank you Darrell for your tireless efforts in keeping our Association in good heart and making sure we have high standards of quality and professionalism out in the market.”

Tony Barbarich, also an NZMRM Life Member, says he first met Darrell in the mid-1980s during the early days of his rollforming business.
“He became President of the then-Metal Roofing and Cladding Manufacturers Association in 1989 and with some short breaks in between was President until 2013.

“Darrell has been an extremely strong supporter of the Association and a great advocate for the industry. He has never let his own business interests come ahead of the industry interests when working on Association matters.”

Tony says that Darrell has never been shy in expressing his opinion on any matter, and has argued his case strongly when required but always for the betterment of the industry.

“He led the industry response when there was an issue with paint fade which resulted in a very satisfactory conclusion for all concerned,” Tony says. “Darrell was a keen supporter of the Annual Conference and has been the organiser of conferences for many years.”

Darrell says that in all the 49 years he has been involved with rollforming he has also been in the various forms of its industry associations over that period.

“I was president of the NZMRM for 19 years from 1994 until 2014 with one year off in between. Tony Barbarich then became President before he planned to retired,” he says. “It’s noted that Tony is still on the executive so I do not know what happened to retirement.”

He adds, “During my time of President we decided to become more pro-active as an association and become leaders not followers. We set out

The company has deep roots in the district and sponsors rugby and racing, as well as helping to fund rescue helicopters.

Darrell describes wife Beverly as his “rock” and they have enjoyed watching their family develop over the years. He says, “I have watched my children grow and followed them around the world. Now I watch my grandchildren and follow them – not that Bev and I need an excuse; we love travelling on land or sea. “At the moment we have a grandson who is doing very well in cross country longer distance running and we have just returned from Paris after watching him run in the world secondary schools cross country and expect to spend lots more time watching him.”

One of Darrell’s other great loves is cars.
“Bev will tell you that I am unable to leave them standard,” he says. “I do things like increase power and change the wheels.

“We have a campervan which we travel around in with a Smart car towed behind. In the shed I have a fully worked 1970 Ford Fairmont and have just purchased a 1996 MGR V8 soft top.”

Darrell says he has got back just as much from the NZMRM as he has put in. “I have enjoyed my time in the association and the people I have met over the years, and have many fond memories.”

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NEWS & VIEWS

Two of New Zealand’s oldest roofing companies, Calder Stewart Roofing and Dimond Industries will come together under the new name of DIMOND ROOFING.

The new brand has been created to represent the best parts of two iconic roll-forming brands that have existed in New Zealand for many years. Dimond Roofing is now the largest roll-former of long run roofing material in New Zealand, with sites from Invercargill to Whangarei. It employs over 170 staff at its 11 locations around the country.

The move comes after Fletcher Building completed the purchase of Calder Stewart Roofing in April 2017 to operate alongside Dimond Industries, under its Fletcher Steel group of companies.

Hamish Mcbeath, General Manager, Fletcher Steel said: “ Both brands have a strong heritage, but the opportunity to have them come together under one brand is exciting. Also, as part of the purchase agreement, there is a time limit of how long we can use the Calder Stewart Roofing name for, and so it has been a priority for the team over the last six months to work through our options and develop a new brand that encapsulates the best elements from each existing brand.”

Dimond Roofing will continue to work hard to bring innovative roofing solutions to the New Zealand market, for both the residential and commercial sectors, such as the recently developed Tricore insulated roof system, designed and tested in conjunction with Nuralite.

Neil Watson, Head of Marketing, Fletcher Steel said: “The process to create a new brand has been a rewarding experience for all of us involved. With such a strong heritage we were able to work through which elements were most important to our customers and the architectural community. The new brand will be rolled out in the South Island initially at our sites in Dunedin and Christchurch, with the remaining sites being rebranded through the year. Our people are passionate about helping customers gain the edge in their markets and the new brand will support this passion going forward.”

ARCLINE ARCHITECTURE : INSPIRED BOATSHED

“It had to be sunny, open and well connected to the site, to have a beach house look and feel with intimate spaces to rest in.”

Taking his inspiration from Waiheke Island’s boutique hotel The Boatshed, Uwe Weiland had a firm concept plan for his new home in Russell.
It was important to Uwe that the house be sympathetic to the colonial character of the seaside town, and the boatshed aesthetic was fitting considering the hillside section the home would sit on overlooked the Russell Boating Club.

“The section has bush, valley and water views so we wanted to have a view from every room,” says Uwe. “So we just took five boatsheds and put them together and offset them.”

While that might sound simple the reality was somewhat different on a sloping site, especially as Uwe and partner Angela wanted to landscape around the five gabled structures to give them a sense of permanence.

Uwe says 4m deep foundations were used and 5000 blocks went into the foundation wall, with 800 tonnes of boulders trucked in to terrace the northwest-facing site.

“The landscaping was just as important to us as the building,” says Uwe. “We wanted it to look as if it had been there forever.” He adds. “Having the chance to build your own home, it’s a bit like leaving your signature somewhere so you want to get it right. We were doing the planting in parallel to the building so that once one part of the build was finished and there was going to be no more disturbance, we did the planting of that area. When the house was finished, the whole section looked very settled.”

Uwe’s concept was made reality by Arcline Architecture, with Alan Simpkin helping to flesh it out and draw plans up for council approval. “Working with Arcline was quite easy,” says Uwe. “Alan was highly flexible and full of ideas.”

Alan says the design of the home sits comfortably with the surrounding character cottages. “Most of these are clad in white weatherboards with corrugated roofing so the home fits well into this vernacular,” he says. “The home had to be zoned into separate spaces for when Uwe and Angela’s visitors come to stay. It had to be sunny, open and well connected to the site, to have a beach house look and feel with intimate spaces to rest in.” Alan met the couple on site and discussed where the rooms were to go in relation to the views and sun.

“Arcline came up with a pencil sketch design of five pavilions all linked together,” says Alan. “This was then prepared as a CAD model for the clients to have as a walk-through. It was fine-tuned then full plans prepared and Arcline obtained all the engineering and building consents for the clients to make it hassle-free.”

One of the major design decisions was to avoid internal gutters between the pavilions, which are linked by intermediate roofs, creating a nice symmetry from the air.

"I found managing the project a very enjoyable experience," Uwe Weiland

The practice is passionate about Virtual Reality and Augmented Reality helping clients visualise their home design on their site

"We did discuss that," says Uwe. "And Alan said if you want peace of mind, you should not have internal gutters."

Other design features were a large round window in one of the pavilions to maximise the view, and about 100sq m of wrap around decking along the seaward-facing side of the house that enhances indoor-outdoor flow.

The second pavilion has a raked ceiling with exposed trusses and acts as a 'breezeway' because it can be opened up at both ends. There is a sunny, sheltered outdoor rear patio from where you can look through the 'breezeway' pavilion and enjoy the view.

Another feature incorporated into the house is the Subway-style, over-wall sliding glass doors off the dining room that you push apart.

Uwe, who has a background in marine engineering, project-managed the build, which was undertaken by Selwyn Cartridge, who had built Uwe's previous home in the bush near Russell.

"With the tradespeople like the plumber and the electrician we would have no more than three on site at a time because it is distracting otherwise," says Uwe. "I found managing the project a very enjoyable experience because coming from the marine engineering field, technical projects are nothing new to me."

An extra challenge was that being in Russell, materials had to come on the ferry from Paihia or Kerikeri.

The home is clad in a mixture of Linea weatherboard and rough sawn ply and batten. "With the house being 28 metres long, the different materials help to break up the look and it goes well with the theme of the boatshed."

Different styles of over-height, double-glazed windows and doors are used as well, with the couple electing to use chunkier, commerical-style joinery. The 48 windows in the house were placed in such a way as to allow light and warmth into the home.

Coming from Germany, Uwe says he was probably guilty of "overkill' when it came to insulation, going beyond spec and even insulating the interior walls. A ventilation system keeps the house dry and three heat pumps keep it cosy although they are not needed that often in the 'winter-less North'.
With 420sq m of room, the house has plenty of catchment to fill the two concrete water tanks – totalling 50,000 litres – that are buried with planting on top.

Arcline Architecture
Alan Simpkin and his wife Michelle first started their Design & Build company in 1993. After building an average of 20 homes per year over the following 10 years, the team refocused in 2003 and has concentrated on producing great architecture ever since.

The Arcline team is led by Alan Simpkin, a fully qualified builder and Architectural Designer.
The Kaitaia practice is passionate about modernising architecture and is breaking new ground with Virtual Reality and Augmented Reality, helping clients visualise their home design on their site before submitting for a building consent.

As each design project progresses they complete building cost estimates to ensure the design is running to the client's expected budget.

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Roofing manufacturer:
Dimond Roofing
http://www.dimond.co.nz
Profile: COLORSTEEL® Corrugate 0.40mm
Colour: Slate .
Roofing supplier: Placemakers Kerikeri
Roofing installer: Brian Henderson
Builder: Selwyn Cartridge
Photography: Aerial Vision: Advanced Imagery

GERARD FEATURES IN DESIGNER SHOW HOME

When Auckland architectural design firm SK Design want to inspire future homeowner clients, they won't even need to leave their office.

Their brand new business premises in the North Shore suburb of Orewa also doubles as a four-bedroom show home of their own design, and features a Gerard pressed steel roof.

Materials were carefully chosen with New Zealand conditions in mind, and in particular Auckland's mix of summer sun and humidity, and year round rain and moisture.

In this case, the textured Gerard Corona roof blends with a mix of both brick and timber cladding to form a classic, durable exterior that compliments the latest in interior design.

Ideal for Auckland's elements
With professional experience that includes designing homes for a national group, business owner Sara Walker knows how building materials perform in Kiwi conditions.

For her own project, she demanded Gerard's pressed steel system:
"Being an architectural designer, I have experience specifying a range of roof materials and solutions, but pressed steel tile stood out for what we need. Our intense New Zealand UV and weight ruled out concrete. Asphalt was considered, but it's too tight when installed, and in my opinion this negatively impacts ventilation. We were also concerned about the noise of long run."

I've used a lot of Gerard over the years and it's proven.

Similar factors also influenced the cladding:
"Because this one's for us to work in long term, we wanted nice features and quality throughout. But it also had to be low maintenance and be a classic look. In my opinion, brick is a great choice in New Zealand conditions. I also like the look of weatherboard, but for this I didn't want the long-term maintenance associated with it."

Gerard the trusted brand in pressed steel roofing
Sara turned to Gerard as a brand she'd had success with in the past: "I've used a lot of Gerard over the years and it's proven. I have a great relationship with (Gerard sales representative) Eric, he communicates really well and provides a quality service. I've already told him about another home we have coming up."

Designer touches throughout
Despite years of experience in both one and two-storey projects, Sara and team decided on a single-level show home, with the build completed by YC Homes.

With four bedrooms and three bathrooms in a 260m2 floor plan, you might expect things to feel compact on the inside, yet it's far from the case. Thoroughfares and living spaces are generous, open and well lit, with the function and flow you'd expect in a home designed by professionals. The sleek, modern interior is dominated by light and dark greys, natural wood tones and black, also contrasted by tasteful splashes of orange which provide an added edginess and personality. A polished concrete floor throughout the home is a feature in itself, the bathrooms are on trend, and a deluxe kitchen boasts the latest appliances and tapware as well as a breakfast bar and walk-in pantry.

New show home reflects commercial success
Sara stepped out on her own four years ago to form SK Design, and has grown the business almost entirely on reputation:

"We've worked from home since 2014. In that time our business has grown – two became four – so we needed a change of premises. We take pride in being a small design business and don't try to compete on size. We're getting new customers by word of mouth and have lots of repeat business, so we have the luxury of not having to advertise."

She's extremely happy with how things have worked out: "I was actively looking when the developer approached me about this site. We liked it for office space and so we decided to do the show home here. My own home is also in Orewa, so it's perfect!"

Aspect Roofing
Aspect Roofing have been in business for over 11 years, and in that time have positioned themselves as one of Auckland's leading roof installers.

Representative Kyle Golder explains their involvement in this project: "This roof is a great example of how a premium product, coupled with Aspect Roofing's superior workmanship, can create a look that stands above the rest. We have installed roofs for YC Homes for almost two years now and we continue to see great projects with both good design and an easy to work with team. We couldn't ask for more."

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HIGHAM ARCHITECTURE

A ‘forever’ home known locally as “the hanger”

When a 1600m2 site in West Melton was purchased the owners were looking to build their “forever” home - something that would capture the magnificence of the rural vista to the mountains in contrast to their hectic urban lifestyle. This became the challenge for Rangiora architectural designer, Jason Higham (Higham Architecture), to create a home with long term appeal and Lifemark standards.

West Melton is a small but steadily growing rural town, 20km west of Christchurch which has attracted new sub-divisions along with group housing activity. However, Janet and Bernie Cummings’ express wish was for a home that was different and unique, one that would stand out but linked well with the rural environment of the town. It was to provide adaptability for their future needs – a haven for the rest of their lives.

Some of the locals have nicknamed Janet and Bernie’s home “the hanger”, Jason Higham’s bold design maximising views to the alps from its position on the outskirts of a sub-division which used to be farmland.

The immediate impact of this home is its form and orientation on the site, set well back from the street unlike many of the street-facing homes. It is angled to benefit from best sun, offers privacy and outstanding views to the mountains.

Jason drew his inspiration for the home from the local pastoral landscape, the main form of the building paying homage to the iconic kiwi farm shed with simple, strong angular lines and requiring low maintenance metal cladding reinterpreted in an elegant and contemporary way.

The long-term safety, usability and adaptability of the home was at the heart of the design which has achieved the maximum 5-Star certification under Lifemark’s design standards.

The public face of the building is punctuated by a few slender windows leaving the minimalist forms and claddings to stand proud. Sleek black steel in wide tray profile contrasts against white plaster, while the visual warmth of cedar weatherboards harmonises the overall aesthetic.

The sparseness of glazing on the public face of the home is not just about privacy, it is also the southern face and therefore more thermally efficient to reduce glazing on that side. Contract this to the northern face with large expanses of glass, much of which slides away, thereby blurring the boundaries between inside and outside. There is level access off all rooms to accentuate this and to lock in the sun-bathed private face of the home to meet the owners’ much desired oasis.

Says Jason: “A welcoming entry flows easily through to open-plan living spaces where the kitchen becomes a social hub with scullery space hidden behind and out of view.

“Capitalising on the solar gains is the thermal mass of polished concrete floors throughout the main part of the home”, says Jason. “Atop the bedroom wing are photo-voltaic laminate panels laid within the wide tray roofing for a virtually invisible additional energy source”.

HIGHAM ARCHITECTURE

Janet and Bernie's home is easier to live in both now and in the future and it easily fits the description of being "refreshingly unique".

Higham Architecture is a Lifemark accredited partner and is also certified as a Homestar Practitioner – sustainability being an important ingredient for each design. Jason is a professional member of ADNZ and is a licensed building practitioner. He works closely with clients to ensure their functional needs are all met – balanced with aesthetics and budget. The emphasis on quality has been recognised with Higham Architecture featuring in numerous regional and national architecture awards over the years. As testament to this quality of service almost all clients approach the firm via word of mouth referrals.

"Three bedrooms were needed for the clients but their goal was to have one at first floor level to capture the stunning views across West Melton farmland to the Southern Alps. The rising angular form of the design enabled a discreet realisation of this goal so coupled with engineer requirements for the structure, it has also provided a large bonus storage room hidden behind the master bedroom. "In time the home adapts well for the future needs of homeowners when a first-floor master bedroom may become beyond their reach with two good sized bedrooms at ground level, the two levels currently connected with a floating staircase providing an open, light-filled interior".

The principles adhered to in this design ensure that Janet and Bernie's home is easier to live in both now and in the future and it easily fits the description of being "refreshingly unique".

Higham Architecture,
Higham Architecture, established in 1999, has won over 30 design awards including seven in 2017, two of which were national - an ADNZ Resene National Award for Alterations and Additions and a Trends International Design Award Win for Designer Renovation of the Year.

Jason is a sole practitioner, a deliberate move to stay small in order to focus on delivering a highly personalised, quality service for clients. Higham Architecture specialises in unique, residential architecture of both new homes and additions and alterations of existing homes.

Based in Rangiora, having made the move from Christchurch 18 months ago, Jason offers a full design service, from initial concepts through to final documentation with 3D computer visualisations created for all projects to enable clients to see how their design will look prior to being built.
Jason is regularly in Christchurch for site visits and client meetings and examples of his work can be seen throughout the city and the greater Canterbury region.

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Engineer: David Bonnniface (Bonniface Consulting)
Builder: Miles Construction
Roofing and Wall cladding Manufacturer:
Dimond Roofing
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Wall cladding Profile: EuroTray Lite
Roofing Profile: Solar-Rib and Hi Five
Roofing and Cladding Installer:
CS Roofing Canterbury Ltd
Telephone: 03 338 0400
Five-star certification: Lifemark
Photographer – Stephen Goodenough

SCOPE

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