ISSUE 24

SCOPE

NZ METAL ROOFING MANUFACTURERS INC.

Below is a brief introduction to the 2010 executive of The NZ Metal Roofing Manufacturers Inc.
It is intended that Scope be representative of the industry and therefore material of interest is welcomed from all sectors of the building industry be it design, research, manufacture or construction.

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NZ Metal Roofing Manufacturers Inc.
Managing Director of the Steelform Group of Companies.

Immediate past President
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Stuart Hayman: Consultant.

Philip Meyers: Consultant.

Warren Oliver: Managing Director of Franklin Long Roofing.

Darren O'Brien: General Manager for Dimond

Peter Lamb: Company Manager for AHI Roofing

Rod Newbold: Commercial Manager Steel and Tube Roofing Products.

If you would like to submit material please contact any member of the executive or the publisher.

Visit our website at:
www.metalroofing.org.nz

SCOPE

CONTENT ISSUE 24

MRM
NZ METAL ROOFING MANUFACTURERS INC.

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

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SETTING THE STYLE

This magnificent home, the William's residence, is set in the rural area of Clevedon, South Auckland, and has a distinct Canadian /alpine flavour which is no surprise given that Kerry is of Canadian decent and both Kerry and John spent 3 years living in Canada before returning to New Zealand to settle.

The design process was certainly not an instant one as John recalls the family spent many years and lived in many locations prior to briefing Architectural designer, Kim Veltman. The different environments they experienced were beneficial as they were able to determine which aspects of each they enjoyed and would include in their future home and which they would discard.

The location of the home was of paramount importance and the site was purchased some 4 years before the home was built. The site, a 5 acre block, slopes to the northeast and overlooks the flood plain in the area which at times is completely underwater when the Wairoa River overflows. In some respects this was seen as a blessing in disguise for the William's as the entire valley plain is a "no Building Zone" which effectively protects the rural outlook across the valley to the Otua Hills beyond.

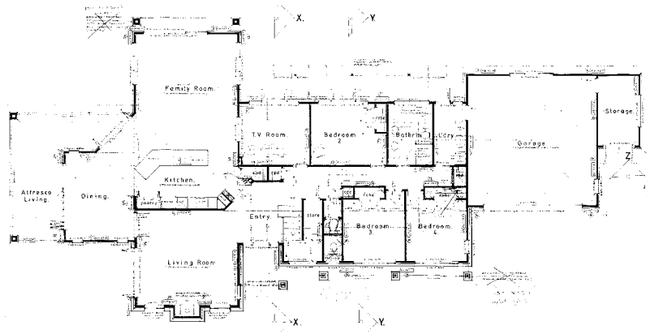
Kerry and John initially built a barn style house that was home during the 4 year design and build process. There are many potential building sites on the land above the flood plain and considerable time was taken to watch and observe the seasonal effects on various locations before settling on the exact location for the home. The building site is well off the road and nestled into the side of the hill. This location takes full advantage of both the sun and the view and affords some protection from the prevailing westerly winds. Now, several years after the landscaped gardens, that were strategically planted, provide further wind protection and a rustic charm.

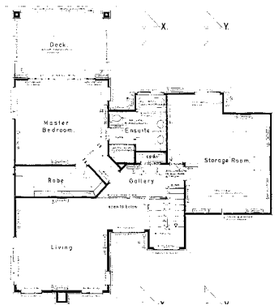
Together Kerry and John agreed from the outset that their home would reflect Kerry's Canadian origin and it would become the family home of their dreams to raise their three young sons. With many photos and sketch plans they briefed and worked with Architectural designer Kim Veltman who was able to enhance many aspects of the final ideas the William's had.

Generally the brief required the usual options with the kitchen that forms part of the family room being the central hub of the home. Both look out over the valley from a huge single glazed window and ranch sliders that open to a deck and pool. The deck is partially covered to enhance the indoor/outdoor living…a place to relax and entertain.

Off the family room is the office that provides John with a good working area as he spends considerable time working from home where he can remain in constant contact with the various office's around the country.

Adjoining the family room is a formal dining area which also looks out over the countryside and deck / pool area. A feature of the dinning area is the natural sarked roof and beams that follow the high-pitched contour of the roof above. The natural timber gives a warmth and ambience to this area. From either the front entrance or the dinning area guests can access the formal lounge that has a stud height of both the upper and lower level and can be viewed from the mezzanine above.





Part of the design requirement was to separate the living areas for the boys from the master bedroom. The boy's rooms are on the lower level.

The upper level has the master bedroom that features a walk in wardrobe, ensuite and a balcony that gives panoramic views of the entire valley. Also on the upper level is the fifth bedroom which is now used as a recreation room.

The roof of the home has a 30-degree pitch which in part gives the Canadian character to the home. John is the first to recognise the importance of the roof design that gives this and all homes their basic character. During the design process with Kim Veltman the various rooflines and planes were given considerable attention to ensure each section of the home was both functional and aesthetically pleasing. Traditionally, in Canada, the roof would have a plywood base and asphalt shingles and whilst this was the look that both owners and architectural designer were striving to achieve they wanted a more permanent roofing material and most importantly, in the rural setting, a roof from which drinking water could be safely collected, would be weather tight for many years and have no fire risk.

The building trade is not new to John as his father was a well-respected builder in the Auckland area and had a very strong association over many years with the founders of Ross Roofing. The Ross family who own and operate Metrotile, produced a shingle that met all the criteria. Safe potable water, a range of natural colours, lightweight, strong, weather and wind resistant and fire proof.

Unique to Metrotile this low profile shingle also features a low profile capping and ridge detail that is essential to complete this refined roof style.

The exterior cladding is in a combination of cedar and natural schist that forms features such as the chimney. Together the materials chosen create the visual appeal and realise the "Canadian" aspect that Kerry and John where striving for. This is truly a very, very well thought out home which reflects the time, energy, research

and design aspirations of both the owners and the designer Kim Veltman. In speaking of the design aspects of the home John is very complementary about the relationship and understanding they achieved with Kim, 'Kim worked with our ideas, listened to our dreams and his creative flare added inspiration to our home. We will always be grateful for his professionalism and attention to detail that has achieved our objective and a home we are very happy with."

Kim Veltman Architecture

Kim Veltman Architecture is a small friendly Architectural firm based in Pakuranga, Auckland, headed by Kim Veltman, an Architectural Graduate with over 20 years experience.

We specialise in providing a wide range of Architectural designs, both contemporary and traditional for residential and commercial purposes.

We are committed to listening carefully to our clients, their requirements and wish lists. We like to see how they live or work, as appropriate, in order to ensure that the design created meets their requirements and is unique to them. We are aware of the importance of the project meeting the client's budgetary requirements and try to provide a realistic estimate of likely costs a project may incur.
"Design today needs to take into account versatility of space. Choose a design that can change with the times.
Remember that the house will eventually be sold, so try to make it adaptable for a variety of living arrangements.
When instructing an Architect you don't need to have a firm idea of what kind of home you want, you need to think about how you would like to live.
In good design there is little wasted space. Optical illusions take advantage of long lengths of the home and use the outside environment to draw the eye in.
What makes a great home is designing one that meets the needs of the people who live in it and you do this by following the first principles of design, using light, sun, views, aspect, climate and the surrounding environment."

Client: Kerry and John Williams

Designer: Kim Veltman Architecture
49 Pakuranga Rd Pakuranga
Telephone: 09 5276835
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www.kimveltman.co.nz

Builder: Craig Marshall
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Profile: Metrotile Shingle

Roofing installer:
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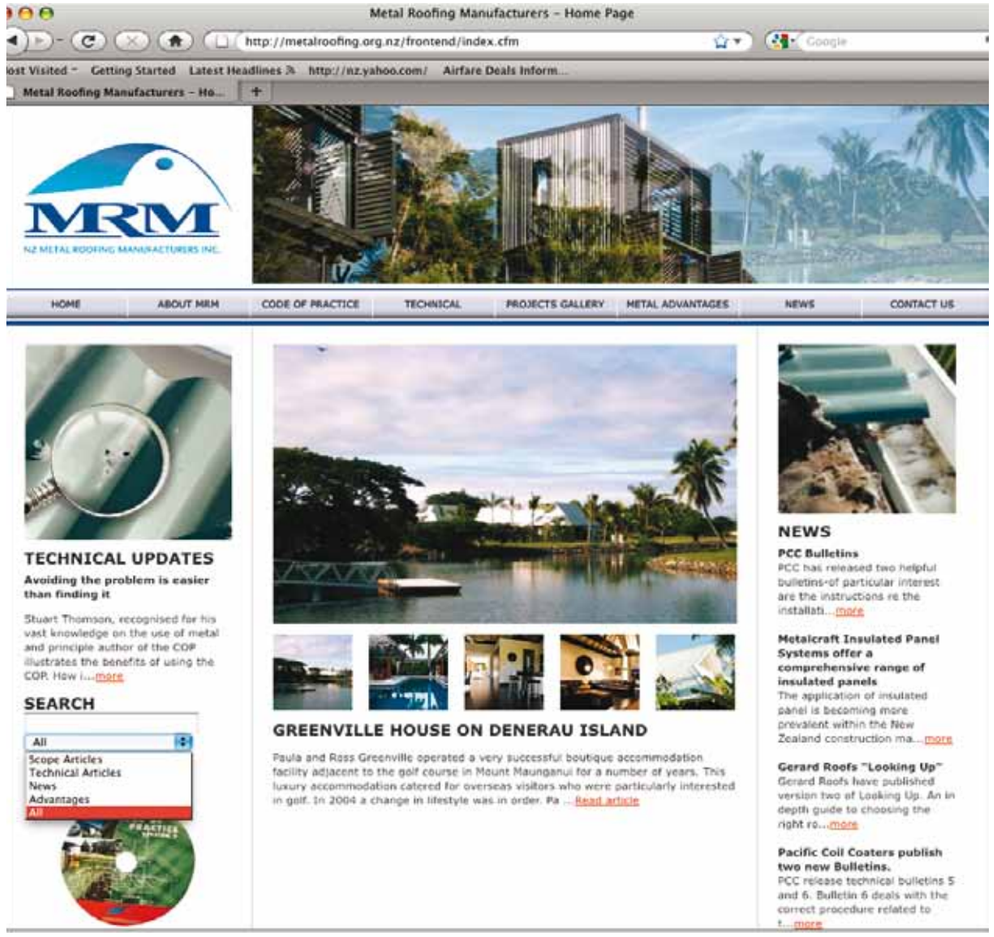
THE NEW MRM WEBSITE MAKES IT EASY

If you want to download the latest copy of the Code of Practice (COP), find the MRM member nearest you, search for members by product or profile category, get technical information from case studies, ask for technical help for a "best practice" solution, find the benefits of using steel or reference designers work by project type or profile....it is all here on the Metal Roofing Manufacturers website and more

www.metalroofing.org.nz



Downloading the current version of the COP is free and easy. Click the COP disc icon to begin the down-load.

Articles from Scope will be featured. These will change with each issue.

News and general industry announcements will be featured as they become available.

The Code of Practice.

The COP clearly defines best practices for designers and roofing and cladding installers, keeping everyone abreast of changes that have been made, the reasons for them, and how to take advantage of them.

In 2009, the DBH endorsed the COP when it formally acknowledged its value by issuing a foreword. The foreword recognises the industry's experience and expertise in the preparation of the COP and its usefulness as a resource for the industry.

When the NZMRM first published the COP it was regarded as a "living document" and because of this it has been regularly updated to better explain some areas or to keep up with technical improvements, changes in standards or building legislation.

Refer regularly to our website for a free copy or updates on the Code of Practice.

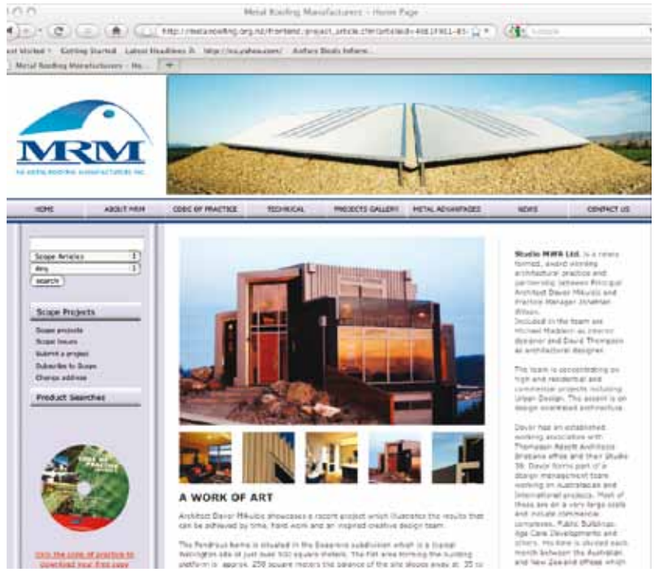
Finding a local or national member.

Finding the right person for the right product is made easy. All members are listed with all contact details. You can search by area and product.

Technical information and metal advantages

Many technical issues can be resolved by talking directly to the manufacturer. Other issues which have been addressed will be published on an ongoing basis. MRM also offers specialist technical advisers and support under the "contact us "section of the website.

There are many advantages in the use of metal cladding and roofing. These range from design attributes to safety. From cost structures to sustainable building and more. These can be found under "Metal Advantages".



Scope projects

Those who have submitted and had an article published in Scope magazine, will find the article published in full on the website. Each article can be used as a reference within various design and product categories. We encourage those with published articles to link directly to the relevant pages on their websites. All sub trades, and in particular the manufacturers and installers are listed with their contact details. This provides a valuable resource and reference.

If your contact details change please notify the MRM who can make the necessary changes.

All sectors of the industry from architects to roofers are encouraged to submit innovative projects to Scope. It is free and distributed to a wide industry segment and all are published on the new website. Details can be found under "Scope Projects".

A work in progress

As with all websites it is the intention of MRM to keep updating the site with new and relevant information. We suggest you bookmark the site to keep abreast with any changes to the COP or other product and project information.

ARCHITECTURE WITH EMPATHY

St. Joseph's Home of Compassion runs an aged-care facility in Silverstream, Upper Hutt. The site has a peaceful outlook across the adjoining St. Patrick's College playing fields toward the Hutt River, and green hills beyond. The facility incorporates a full range of care activities in a compassionate environment, but until recently has lacked a dementia-care unit.

Designed and project managed by BKB Team Architects, the newly completed 16-bed wing connected to the existing facility has been designed to help meet the demand for high-quality dementia-level care services among the ageing local population. In order to achieve this goal, it incorporates a range of contemporary design features particularly suited to dementia-patient care.

The development of the new unit has provided an opportunity to put into practice the most recent advances in design for Stage III care, says Team Architects Director Warwick Bell. "The result is one of New Zealand's foremost 'green' aged-care facilities."

Design focus

The primary focus of the design team was to create a facility that would feel as much like the residents' home environment as possible, within the restraints of an institutional setting. This principle guided the majority of decisions about the new buildings.

The architectural form was developed to emphasise the buildings' residential use. Pitched roofs and familiar window shapes help enhance the residential character, and the split pitched roofs visually break down the scale of the buildings, with the roof heights lowered to a human scale around the internal courtyard. The use of a residential gutter profile around this courtyard further underlines the concept of familiarity. The arrangement of the roofs also provides different ceiling heights, allowing a variety of internal spaces – a low ceiling for an intimate seating area or a higher ceiling with high-level windows to let in the maximum amount of light over a larger space for group activities.

Through thoughtful and considered design, the unit provides an environment that includes many familiar home elements while maximising safety for the residents.

Materials used both inside and out have also been selected with familiarity in mind. Cedar weatherboards, clear-finished plywood and timber-look vinyl all provide a feeling of warmth through colour and texture. At the same time, the material palette incorporates robust finishes suitable for high-wear areas.

Durability and construction efficiency were also the considerations when deciding that colour coated steel in the LT7 profile was the appropriate material for the new roofs. The profile allowed the roof pitch to be kept low and less obtrusive.

Circulation routes have been kept wide and continuous to avoid dead-ends where residents could become confused. A subtle but important feature is the inclusion of 'bus stops' or small seating areas along the way to provide stopping points where a view or an activity can provide residents with a welcome distraction. Easy access to contained outdoor spaces, help to create a lively, pleasant environment for residents, visitors and staff. The main living spaces and adjacent accessible garden areas have views down to the nearby college and river. These distant views take the eye through the necessary secure fencing to the activity beyond, easing the sense of containment for resident and visitor alike.

Individual bedrooms are located in three groups facing east, north or west for morning and garden views, or afternoon sun and more expansive views of the hills. Designed to be large and spacious, these allow flexibility for furniture layout. Each room has its own private bathroom and ample storage for residents' personal belongings. The triangular windows have been carefully designed to maximize both light and ventilation. Opening sashes top and bottom maximize air flow while ensuring residents cannot fall or climb out. The deep window sills are multi-purpose, providing both a casual seat and a ledge for personal items. Mesh incorporated into the lower sashes addresses the risk of these items being dropped or thrown out.

Creating a safe and secure environment was of paramount concern throughout the project. As such, an unobtrusive monitoring system, together with the latest nurse-call technology, was installed to enable staff to monitor the comfort and safety of residents at all times, while still allowing them freedom and autonomy. Sensors on doors and windows alert staff to residents' movements, and as soon as a resident gets out of bed at night, motion sensors turn the bathroom lights on to remind them of why they woke up. A further link will alert the staff to where the night-time activity is taking place.

Environmentally sustainable design features

A major emphasis throughout the development of this project has been on sustainable design practices. While there is currently no New Zealand Green Star rating applicable to aged-care facilities, this project has been designed to the equivalent Australian standard.

The new unit incorporates the latest in sustainable ideals to minimize impact on the environment. Site planning, material selection, equipment choices, building services and landscaping design were all evaluated to align with the applicable green rating standards. Environmentally sustainable design (ESD) requires critical thought and planning effort during the design and construction stages, but the end result is a building that both reduces ongoing running costs and minimises its impact on the environment.

Material selection was a key environmental consideration. All timber was selected for the sustainability of its source; all paint products, including the exterior stain, were specified as Environmental Choice and low VOC. Aluminium profiled vertical weatherboards were chosen to be used in conjunction with the cedar weatherboards once the energy cost of their production was balanced against the cost of ongoing maintenance and longevity. The design team made a number of other decisions in line with the sustainability focus. Among them were: locally sourcing aggregates for the concrete, rolling the spouting profile on site to reduce transport costs, and retaining excavated soil for use elsewhere on site. Alongside these material-choice considerations, energy-efficient technical solutions were also implemented. The project features a completely automated building-management system, which ensures the building is always running at its most efficient levels. For example, the air-conditioning systems are designed to automatically switch off when the windows are opened to minimise power consumption. Further initiatives include a solar hot-water system with a gas backup, providing the hot water feed for the new bathrooms. Rainwater to flush toilets and feed irrigation systems is collected from the roof and stored beneath the building. Other water-protection efforts see the run-off from the car-parking area being collected in a swale before delayed dispersion into the surrounding land.

The St Joseph's Home of Compassion Dementia Unit has been praised for its homely interpretation of what can be a drab and unpleasant care environment. The comfortable living accommodation has been embraced by both residents and staff, setting the bar high for future developments of this type.

Terry O'Dea, Chair of St Joseph's Home of Compassion Heretaunga, and Manager, Theresa McGlynn, are both delighted with the outcome.

"We've had a lot of positive feedback from the management, staff and families about the new facility," Terry says.

Theresa agrees. "They particularly appreciate the spacious feel of the rooms, the choice of natural materials, and the excellent spatial qualities of the building," she says. "The abundance of natural light and the outlook make the unit a very welcoming environment to live in and visit."

BKB Team Architects

BKB Team Architects is the Wellington-based member of a nationwide practice known as Team Architects. With eight regional offices, Team Architects is able to combine its collective expertise and resources with the delivery of local, direct-client services. Team Architects has wide experience in designing aged-care facilities, including hospital-level care, secure/dementia care, rest homes, retirement villages and specialist units. It understands the unique challenges inherent in designing new projects of this type or renovating existing facilities.

Over the last seven years, BKB Team Architects has been involved in a range of projects in the aged care, educational and hospitality sectors, including St Joseph's Home of Compassion which is the latest of these projects and represents the leading edge of design for specialised residential-care and for environmentally sustainable architecture.

The small team of enthusiastic and talented graduates and technicians under the guidance of Directors Warwick Bell, Jane Kelly and Peter Beaumont at BKB Team Architects aims to provide excellence and innovation in their projects. With a philosophy of taking nothing for granted, they take each project back to first principals and set aside assumptions to find the best solution to each individual project. The pursuit of environmental principles is a priority for every project in the office, and to this end BKB Team Architects has established a separate business entity, Team ESD, run by Chris Kendall, Building Scientist. Team ESD provides consultancy services exploring potential synergies in sustainability in all aspects of design and construction. Chris is currently engaged as the Green Star consultant for the Ministry of Education on two new school campus projects in the Wellington region.

Client: St Josephs Home of Compassion Heretaunga Ltd / Mother Aubert Trust Board

Architect: Bell Kelly Beaumont Team Architects Ltd
Telephone: 04 499 6123
Email: bkb@teamarchitects.co.nz
www.bkb-ta.co.nz

Design Team: Warwick Bell, Matthew Mitchell, Russell Allen, Martin Hughes, Chris Kendall (Team ESD)
Engineers: Structural - Spencer Holmes Ltd. Services - Norman Disney Young Ltd. Fire - Holmes Fire & Safety Ltd

Landscape Design: Jamie Reid Landscape and Garden Design Ltd

Main Contractor: Maycroft Construction Ltd

Roofing Manufacturer: Dimond, Profile: LT7, 0.55mm, COLORSTEEL® Endura
Water collection system: Dimond spouting Straightline & Box 175 Profiles, Dimond downpipes, Colorflo.

Roofing Contractor: Surfaceworks Ltd

Project year: 2008 – 2009
Photographs: Bell Kelly Beaumont Team Architects, Colin McDiarmid.

DETAILS MATTER

Like so many Janette and Peter Wilkins had a dream of their new home which would be something very special and uniquely suited to them. Having had some preliminary plans drawn they found the concepts did not match the dream, “We simply did not like it,” says Janette, “It was just a very ordinary house.”

After considerable research in magazines and asking others for recommendations, Janette and Peter arrived at Studio MWA where they outlined their requirements and vision for their new home.
This meeting led to site visits to a couple of Studio MWA’s completed projects and what has been described as “some open talk” about the project and the requirements of the brief.

“Our architectural philosophy is a constant exploration in the overlap between utopian and pragmatic. The area between these is our working space” , says architect, Davor Mikulcic. “ As architects we work very hard to achieve excellence in the fundamentals of functional, quality, aesthetics, sustainability and composition but successful architecture is about much more. It is about the people who will occupy these spaces, their feelings about the spaces, colours, textures, fittings, style, cost effectiveness, and co-ordination. To achieve this we must challenge ourselves and our clients to push the boundaries of stereotypes. It is always a challenge, it is exciting and frustrating, but the results are always very rewarding.”

The first requirement of the brief was to create a home, but to make it “unique & special”.
The home included: A double garage, 4 bedrooms including master suite with walk-in wardrobe and ensuite, studio (as a possible bedroom), 3 bathrooms (including two bedroom ensuites), separate visitors toilet, a separate space for TV, a formal living / dining area, family living kitchen area, and protected – sheltered terraces for outdoor living. The spaces should be comfortable and functional with opportunities for different configurations.

The 700 m2 site in Khandallah, Wellington, posed some problems with a 300 m2 easement over a protected native tree reserve, existing main stormwater and sewage lines in the centre of the site and the usual outer residential rules from Wellington City Council applied for distances for future building from boundaries and high control plane restrictions. Having researched these constraints thoroughly a design format was conceived which considered the impact of wind, sun ,good and bad views, existing services and the general impact on the neighbourhood. The new residence would eventually be spread over three levels, incorporating over 310 m2 of interior space and over 170 m2 of terraces and decks.

The design process.

With most of Studio MWA’s designs considerable importance is placed on accessibility and as it became apparent in the early stages this would be a 3 storey building it was imperative that easy access would be an asset in the future. We all age, have older parents or disabled friends and it is always something to consider at the outset of a design concept.

A lift and stair access created an interesting void and opportunity to open the three levels which form an impressive entrance that incorporated a 9 metre high water

fall, a glass bridge as a functional - connecting element through the middle of the void and sculptured stairs.

From the entrance and access platforms flows the "big picture' of the overall design and in this instance the unusual shape of the two connected rectangle floor planes formed an irregular "Z' shape. This had the advantage of opening the building with interesting views and has created some very well sheltered outdoor living areas which are essential in the Wellington climate. In addition the careful design of open areas allowed for maximum passive solar gain and living flexibility but retains privacy.

This building is in a high wind zone and as a result very careful consideration has been given to the exterior materials for weather tightness and to compliment and reflect the overall composition.

Early in the design process it was decided to use materials people are familiar with, but in a slightly more elegant way, giving them importance, relevant not only through function, but through emotional "attachment": schist-stone walls, exterior weathered timber decking giving "instant silvery grey old appearance", the use of a monochromatic "green" colour scheme for the exteriors and metal colour steel roofing and partial wall cladding – so typical of iconic Kiwi architecture. The project illustrates the effortless blending and sensitive use of materials and colours that would blend into the existing urban context.

To achieve the initial concept in a cost effective way it was immediately obvious that "non standard" structural steel posts and beams would be incorporated into the timber framing. Obviously "a standard" timber frame structure was impossible when making such large open plans, glass walls and huge spans and voids in the 3 storey structure.

Metal COLORSTEEL® roofing – cladding (Dimondek 400 – Endura 0.55 BMT) was chosen as one of the most dominant "striking" materials to achieve the overall

architectural composition and the simple, elegant appearance of straight sharp lines on some walls. This was seen as an opportunity to create a sculptural form rather than the "standard" approach to divide the wall and roof as separate building elements and in a few places the roof actually visually and physically continues 3 stories to ground level. It was obvious that "cavity" wall structure would be the best solution to "eliminate' problems and a combination of metal COLORSTEEL®, James Hardi painted "Lineaboard" and "Monotec" plaster systems were used on the exterior.
Fairview aluminium Joinery in "Karaka green" matches the colour of the metal roofing and fascia elements and is completed with green tinted, double glazing to maximize thermal "efficiency" and improve the performance of the building. Exterior balustrades are completed in green tinted glass to match the exterior glazing.
These elements form, for Davor, the broad framework of the structure but he is careful to impress that it is the details that form these elements that are of critical importance. The structure is actually very complex and the skill is in trying to create very simple details that reflect the function but also enhance the sculptural form. The success of the design often relies on the "first impression" but in fact it is the well designed and executed details that reinforce the composition. Getting

the balance between function and detailed design is always very hard work that requires considerable dedication and patience. This is often the divide that distinguishes between good and bad architectural design.

Many of the projects Studio MWA are asked to consider are those with challenging aspects, some of which have been attempted by others without resolution. For this reason our site and pre-design process is very detailed, exploring every opportunity prior to presenting a solution worthy of the site and clients consideration. This takes time but has proven to be a worthwhile approach which delivers the maximum potential.

As with all Studio MWA projects the design incorporates the total interior design including kitchen, bathrooms, toilets, laundries, wardrobes and storage together with some "fixed furniture and cabinetry", interior and exterior colour schemes and choice of materials. The complete overall architectural design combines the exterior, interior and architectural hard landscaping.

The architectural hard landscaping design addresses access to the garage and house, terraces, decks, retaining walls, raised gardens, roof terraces, a "connection" with preserved bush land at the back of the site enabling the building to settle into the existing urban context, with full appreciation of neighbouring properties, without the intention to dominate.

The success of any project depends on the attention to detail and on the Wilkins' home the main contractor, Ryan Freer, did a magnificent job. Together his team worked closely with the Studio MWA design team and with all other sub trades co-ordinating them to deliver a top quality project that Studio MWA, and their clients, could be proud of.

The project has many "state of the art" features such as the automation of the electric main entry door, total lighting inside and out, a security system and electric roller blinds are just some of features executed by Mr. Punan's team at "Home Automation.

The 9 metre high waterfall sculpture with the Glass Bridge and elegant open timber – steel steps and internal schist wall are definitely the most powerful "first impression" at the entry.

Floor mounted strips of LED up-lights totally transform the space at night including the waterfall and glass bridge supported by two simple steel beams and opaque glass in combination with a clear glass balustrades. Attention to details, really emphasis the design goals to make it functional, light, visually attractive and unique. Glass Relate did an amazing job completing these features.

Schist veneer is a visually interesting design element and is also functional performing as a "solar collector" to store winter solar heat together with floor tiles over the thermally insulated concrete slab.

The kitchen joinery and fixed cabinetry, including bathroom and ensuite joinery, is designed by Studio MWA and manufactured and installed by Hadrian Noble from Noble kitchens. Top workmanship and attention to details and installation, together with "Trethewey" black granite bench tops make the kitchen one of the central focal points of the residence.

Davor emphasises the importance of building long term working relationships with the various trades involved in each project. It is the specialist skills and expertise that these collective trades bring to each project that contribute to the overall excellence at the highest of standards.

In the final analysis architectural design is about people and space. An email from the client in this case sums it up well.

Hi Davor & Michael

Just confirming my phone call to Michael this morning to say how delighted we are with the look of the house now that the scaffolding has finally been removed.

We can't believe how fantastic it looks and just can't wait for it to be completed.
The project is a real credit to your vision and skill and we are absolutely thrilled with what is being delivered to us.

Thanks for your marvellous contribution to our project.

Kind regards
Peter Wilkins

Studio MWA

Studio MWA now works in collaboration with the new, Brisbane based office of Davor Mikulcic Architect.
The range of projects is a spread between commercial and residential. Our primary focus is on high end residential buildings and new clients predominantly are the result of recommendations, or they are people who have seen our work through publications, Industry Awards or from visiting completed projects.

The core team at Studio MWA consists of Davor Mikulcic (Principle of Architect) and Michael Maddren (interior design and ArchiCAD specialist).

Michael teaches at Wellington Weltec in interior design and ArchiCAD systems and Davor Mikulcic teaches in the Queensland University of Technology (QUT) - faculty of Build Environment- School of Design.

Davor was on the jury for the 2009 Royal Australian Institute of Architects (now AIA) for Queensland and Brisbane and this year AIA–Queensland, have chosen Davor to chair the 2010 Judging for Award in Architecture in the Brisbane region in most prestigious category – Public architecture.

In 2010, for the second year in succession, Davor was invited onto the jury for the international architectural student's competition in Denver, Colorado, USA for the Socio Design Foundation.

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Roof and metal cladding manufacturer: Dimond
Profile: roofing and Cladding
Dimondeck 400
COLORSTEEL® Endura ®
Flashings: COLORSTEEL® Endura®
Karaka Green

Roofing and metal cladding installer:
Tararua Roofing – Wellington
Telephone: 04 569 3074

Electronics: Home Automation Wellington
Contact Mr. Kena Punan
Mob: 027 543 9895

NME Electrical (Wellington)
Phone: 04 589 0310
Email: admin@nme.co.nz

Photography:
Ivor Earp – Jones, Wellington
Telephone: 027 443 0807

GOOD DESIGN AND MATERIALS STAND THE TEST OF TIME

The building is one of thirteen buildings completed in the early to mid 1980s on 12.45 hectares of prime land bounded by Neil park Drive, Highbrook Drive and Ra Ora Drive in East Tamaki. The overall development was named and marketed as Ra Ora. Park Industrial Estate in recognition of the total site being a subdivision of part of the Ra Ora Stud.

Alan D. Palmer Registered Architect was responsible for the design of the thirteen buildings and oversaw their construction which was undertaken by the owner, John Stevenson, a private investor, who still retains ownership of seven of the buildings.

The success of these projects lead to developments on other sites in East Tamaki and Wiri for other private investors who were impressed with the quality of the design and construction of the buildings established in the Ra Ora Park Industrial Estate.

The Kia Motors building was constructed in 1987 and was originally tenanted by Mainland Products Ltd. in 2001 the building was leased to Fisher and Paykel and occupied by their subsidiary Prime Distributors Ltd. who vacated the premises in August 2009.

At that time Stevenson asked Palmer to come up with some ideas to give the building a face lift to upgrade the buildings presentation appropriate for its exposure to the new highway and to bring it up to the standard of other recent buildings in the Highbrook Industrial Estate.

At the same time Kia Motors Ltd. were looking for a suitably high profile location for the NZ head office and showroom for the newly emerging brand and it transpired that their international corporate branding design standards almost mirrored the initial concept Palmer had proposed for the upgrade for the building.

As a result, a number of meetings were held involving Kia management personnel, Stevenson, Knight Frank leasing agent Jamsheed Sidhwa and Palmer, which resulted in a fully resolved, developed design proposal which satisfied and met all the objectives of Kia Motors Ltd.

As the construction of Highbrook Drive had only required 4 metres of an original 7.5 metre road widening setback to be taken, it became possible to extend the building forward by 3.5 metres which allowed the opportunity to provide Kia with a showroom which has maximum possible exposure to the increasingly busy arterial highway.

Whilst the warehouse section of the building has remained generally in its original form it has been fitted out with a new parts racking system and a technical workshop for staff training. Of particular interest is the use of Speedwall which divides the workshop from other areas of the building. This system is modular, very fast to erect, is Branz appraised and offers many advantages. It can be used in a horizontal or vertical position with options for finishing and rating.

The newly constructed administration section of the building incorporates on the ground floor, the vehicle showroom, a dealer training room with full audio visual facilities and acoustically rated sliding-folding space divider, a warehouse managers office and two storerooms.

On the first floor, which overlooks the showroom, are the reception area, visitor toilets, boardroom, two private interview rooms, three subdivided executive offices, open plan general office, filing area, records storage room, server room and a new staff lunchroom with full kitchen facilities.

Although John Stevenson has been careful not to create “purpose built” buildings that do not prove to be a good business investment over the long term, he is open to working closely with prospective tenants to ensure that each project can meet their needs and conform to their specific corporate brand requirements. In so doing he has secured many long term satisfied tenants over the past thirty years.

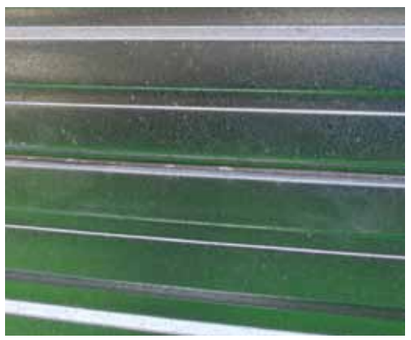
Bringing a building designed in the 80’s to meet the needs of a progressive company is never an easy task but in this instance the foresight of architect Alan Palmer, together with owner John Stevenson, in making sound choices in materials employed in the original construction have minimised the need for a complete rebuild.

All thirteen of the buildings in Ra Ora Industrial Estate were originally sheathed in Balfour’s Trimline profile, Bone White COLORSTEEL®, longrun metal cladding which in this particular building has remained in excellent condition 23 years after it was built. The original manufacturer later became part of Steel and Tube Ltd. The Cladding profile is still manufactured today by Steel and Tube Ltd. but now

utilises a ZINCALUME® steel base. The original New Zealand Steel galvanised steel preceded ZINCALUME® steel for roll formed metal roofing and cladding. Where the front wall and front parts of the side walls of the building have been reconstructed, new cladding has been installed, however it is remarkable to note that it is impossible to tell where the new material ends and the old begins. The profile, paint surface, gloss and colour are identical on both new and old materials. A remarkable demonstration of the durability of the original material and finish. This particular profile is one that Alan Palmer has used almost exclusively on the 125 or so projects he has designed over the past thirty years, He says the proportions of the pans and raised ribs work extremely well producing a bold linear pattern which is enhanced by the shadow lines of the ribs which are created by and vary with the changing light.

One design feature of particular note on these buildings and one which John Stevenson believes contributes to the longevity of the product and building is the 2 metre high concrete block base walls. This protects the lower level of the building from vehicle damage and puts the metal cladding above the "splash line" from rain. What is often overlooked is the use of garden bark close to or against metal cladding which can over time leach chemicals that ultimately cause corrosion. This is an excellent example of design innovation and attention to detail that is consistent with other considerations of durability such as the elimination of unwashed areas. These design attributes coupled with experience in both usage and product performance have served the occupiers and owner well over many years.

The success of this early development in the East Tamaki industrial are led to many further commissions for Alan Palmer over the following years including a comprehensive twenty four building industrial development for Brierley Cromwell Properties in Wiri shortly after completion of the Ra Ora Park Industrial Estate however that project became a victim of the 1987 share market crash and only 1 building was actually completed. Many other buildings however followed, some for individual owner/occupiers and others for repeat clients such as property investors Synergy Properties Ltd. Many developments have been specifically designed for multi-national companies such as Yamaha Motor Ltd., Stihl Ltd. and Kia Motors Ltd. as well as smaller local companies such as Lloyd Stevenson Boat builders Ltd. Horners Confectionery Ltd. and SAECO Ltd. either as tenants or as owners. All however have at least one thing in common, all have longrun roofing and COLORSTEEL® wall cladding and all are in sound condition, some even thirty years on.



Speedwall: An innovative product which is used here to provide protection from fire and sound.

ALAN D PALMER ANZIA REGISTERED ARCHITECT

Since establishing his practice in 1979 Alan Palmer has been responsible for the design, and overseen construction, of more than 125 industrial and commercial projects ranging in size from his very first commission, two industrial units of 500 sm combined gross floor area, to a 20 building, comprehensively designed, integrated industrial park complex totalling 74,809 sm.
The practice has also undertaken a small number of quality residential projects, as well as interior design work, particularly involving commercial fit-outs and the inevitable alterations and additions, both commercial and residential.

Notwithstanding the scope of his work and often extensive workload Alan operates as a sole practitioner, undertaking all aspects of architectural practice in a personal capacity in order to provide well resolved design solutions, accurate and sound documentation for tender, consent and construction, and completed buildings constructed strictly in accordance with best practice and complying with all current codes and standards.

Alan strives to provide appropriate, cost effective and enduring solutions with an awareness of potential flexibility for future changes of use or emphasis, having gained considerable experience over the past 30 years of evolving owner and occupier requirements over the longer term.

Owner: Shaw Lands Ltd.

Architect : Alan D Palmer
ANZIA - Registered Architect
Auckland
Telephone: 522-4324
Mobile : 027-476-9673
Email: alan@alandpalmer.co.nz

Structural Engineer :
Airey Consultants Ltd.

Builder : QS Building Ltd.
Gavin Hegley Ltd.

Roofing & Cladding Manufacturer:
Steel and Tube,
Telephone: 09 274 4056
Profile: COLORSTEEL® Endura®
Bone White Trimline

Roofing & Wall Cladding :
Paton Roofing Ltd.

Workshop walls:
Speedwall Ltd. Hamilton
Telephone: 07 849 7062
www.speedwall.co.nz

Joinery Fittings: Lloyd Stevenson Boatbuilders Ltd.

KAURI POINT

The site of Alison and Gavin Francis's new home, designed by Gordon Martinsen of ICON architectural Concepts, is one that is becoming rare on the North Shore in Auckland's suburban swell. The site is a two minute walk from the well known Kauri Point reserve and has some unexpected and tranquil bush views and an abundance of bird life. This quiet hillside refuge presented a small but challenging site with 6 metres of cross fall and a large public storm water drain to the rear. Working within these constraints the final design required 2.5 metres of cut, significant retaining to create the building platform, 1.5 metres of fill and extensive foundation piling.

Home owner, Gavin Francis, built this remarkable scale model prior to embarking on the project. The contours and building are accurate and the roof lifts off to reveal the interior spaces and fixtures.

Building and an appreciation of spaces and form is nothing new to Gavin who has undertaken a number of previous projects and has carefully constructed models. In this instance the land contours and position of the home were created in perfect miniature along with a small model showing the function of the bathroom in every detail. Something Alison appreciates as she openly admits that the plan in 2D was difficult for her to visualise and these models, constructed from Gordon's plans, bought the project to life for her prior to launching into the final construction.

Gordon works with 3D cad models to enable clients to "walk through" the proposed home. This is a useful tool however onsite it is not always available and in one instance the block layers were able to get a clear understanding of the levels from the model onsite.

The building form steps in response to the gradient of the street and the various spaces are articulated by the use of two contrasting materials. Natural corrugated ZINCALUME® is contrasted with band sawn plywood painted a warm grey / green. This use of form and materials gives the house a strong sense of "belonging" to the site.

The design solution created a double Garage and Laundry at street level rising to the Front Entry at half level. The front entry is cleverly designed to be visible from the living level above but retains the privacy from within the home and allows internal access from the garage. The main living level contains an open plan Kitchen Dining and Living area with two adjoining bedrooms and a bathroom. The kitchen features an "island" bench with retractable power supply and state of the art innovations.

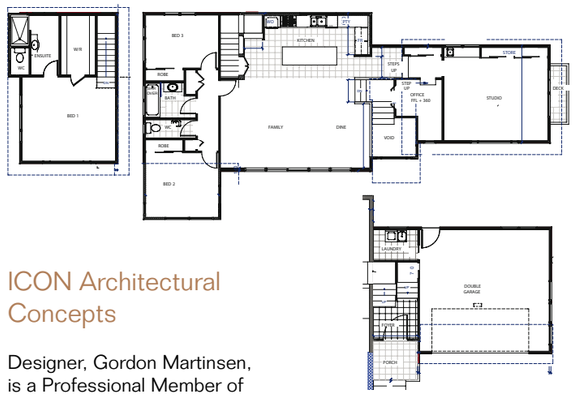
A further 0.5 metre split returns above the Garage to provide a study which overlooks the family area, kitchen and entry giving a sense of inclusion in family activities even when working at the computer. Recessed into the hall opposite is a well considered area for telephones cell phone charges, cameras etc... something often overlooked which can quickly clutter other work areas. Beyond the study is a good size studio for Alison's weaving loom and photographic workshop where she is able to create exceptional artwork using both her weaving and printing skills. The space has excellent natural light from the north/west and has proven to be a very warm work space. The windows here are fitted with retractable sunscreens to allow the control of both light and heat. This space has been specifically designed as Alison's studio but could also function as a second Lounge or Family Room should the future need arise. For now at least, nothing will shift Alison from this space where she can enjoy views across the bush and valley, sunshine during the day and sunsets in the evening while weaving her magic.

At the end of the main Living area a flight of stairs leads to the Master Bedroom, En-Suite and Dressing Room directly above the bedrooms below. The multi-level of the home provides the master bedroom with windows on 3 sides allowing the maximum of natural light and some interesting views across the roof planes to the bush.

The principle axis of the house runs east/ west with most rooms having northern orientation to maximise winter solar gain. High level windows to the main Living areas provide good winter solar penetration with the enlarged overhang and opening louvres minimising summer heat gain. The windows in the home are all double glazed in accord with the Building code and the insulation used exceeds the recommendation of the building code. The home is built on a concrete pad which provides a heat sink which Gavin confirms is so effective they have had little need to use the heat pump which supplements heating. For those who live on the North Shore and have experienced our unusually cold nights, reaching -1 degrees on occasion, this is a very positive and significant energy saving.

As with all projects the end result is often dependant on the skills of the builder and his ability to co-ordinate the various trades. The Francis home was built by AKT Construction and supervised by Nathan Whitcombe. Both Alison and Gavin speak very highly of the workmanship and detailed finishing he achieved on their new home.

The owners response on taking possession was that their requirements had been met perfectly and exceeded their expectations, particularly with numerous interesting views of the structure and various forms revealing themselves throughout the house.



ICON Architectural Concepts

Designer, Gordon Martinsen, is a Professional Member of Architectural Designers NZ (ADNZ) and has over 25 years experience working on Auckland's North Shore.

Gordon prides himself on being a listener first...a designer second. The style of any home is the client's initiative. It is their home and Gordon sees his role, as a designer, to bring all the dreams together with flair and present a package that meets these needs and the building code. To do this it is essential to spend time exploring many options, pushing the boundaries and aspirations of those who will ultimately occupy the building.

Whilst Gordon has a passion for residential design in both new homes and renovations he also has a keen interest in the design opportunities of commercial building, and in particular child care centres of which he has 8 to his credit.

Client: Alison and Gavin Francis

ICON Architectural Concepts
Designer: Gordon Martinsen
North Shore City
Telephone: 09 481 0001
Email:gordon@icon-architectural.co.nz
www.icon-architectural.co.nz

Building Contractor:
AKT Construction
Nathan Whitcombe
Telephone: 0274 845 541
Email: aktconstruction@hotmail.com

Roofing manufacturer: Dimond
Profile: Dimond Affinity Cladding
ZINCALUME'®

Roofing contractor;
Right Now Roofing
Warkworth.
Telephone: 09 4222 2131
Email: Nathan@rightnowroofing.co.nz
Website: www.rightnowroofing.co.nz

Architectural Designers New Zealand Inc (ADNZ) was formed in 1996 to represent, promote and develop the skills and services of this country's architectural designers. Members are design and construction specialists who have met demanding ADNZ member entry criteria and agreed to operate their businesses in a way that conforms to a strict code of ethics. To be eligible to join the professional body, ADNZ members must hold recognised professional qualifications, undertake ongoing professional development, adhere to a code of conduct and have their skills assessed to ensure they meet rigorous competency standards.

ADNZ has nine branches throughout the country and members make a considerable contribution to the building industry with a substantial creative influence on innovative building. As a professional body we value the close associations we have established with many reputable companies and organisations. Over recent years ADNZ members have been recognised for their growing impact and influence on the housing and renovation industry.

THE RIGHT ROOF FOR AN EXTRA-ORDINARY HOUSE

When you're in the demolition business actually building a house might seem counter-intuitive, but Peter and Katrina Ward relished the experience.
Peter has been dismantling buildings for 20 years and in that time has collected a range of uncommon mementos. "I saved the unusual bits and pieces, like bricks with finger prints, and some really old ones with the manufacturer's name underneath. Over time I trained up my men to look out for the weird items – not the pretty ones – and my collection grew to the point where I was running out of storage space." He admits to having rescued pallet upon pallet of old bricks.
He always knew that one day he'd build a home incorporating these treasures.

The Wards' new Ararimu home is quirky, homely and welcoming. "It's a family home, chunky and solid – and built to last," says Katrina. "It blends with the countryside and it incorporates many of the materials we had available."
It also uses new material: an important feature of the home is the COLORSTEEL®) corrugated roofing iron, which, Peter chuckles, is not recycled!
"I love the sound of rain on the roof. I grew up on a Waikato farm and as a kid I'd lie in bed listening to the rain. It's such an important part of rural life and I like hearing it – which you can with an iron roof." He listens for a moment, then adds: "I do love my roof."
Katrina and Peter drove around the district looking at all sorts of roofs but soon realised they preferred the straight simple tidy lines – the elegance – of steel. "It's also easy to maintain, and has New Zealand Steel's Warranties in place. You can't go wrong with that! We've built this house to last and we wanted a roof that would last well too. A low maintenance roof was a priority."

"I delight in seeing so much material recycled," says Peter. "It reminds me why I do what I do." He learned as a child on the farm that when things broke they were repaired rather than replaced. He developed a lifetime belief in preservation. "Everything has a life cycle, so an end is also a beginning. I like to reuse what I can – to give materials another life."
His house is testament to that fundamental belief system.

Part of the exterior skin comprises recycled bricks, some of which came from a building his company pulled down in Queen Street Auckland. "It was next to the "White House" and prior to this it had been a piano store with an interesting history. The bricks were remarkable, some with finger prints and many were frogged, with the manufacturer's stamps underneath."

Interior beams were fashioned from timber salvaged from the old waterfront dinghy lockers at Hobson Bay; two of the doors came from the gaol at Papakura Army Camp: "They're solid rimu, real 'character' doors, very heavy, each with a 150ml- diameter peep hole through which the gaoler could safely

check on the prisoner." Peter had to lengthen the doors for his own use. "They were pretty primitive: prisoners would have been forced to stoop to get into the cells."
Peter's still landscaping. "That's work-in-progress," he says, cheerfully. "But it'll end up low maintenance. I'm not a slave to property." He's incorporated some extraordinary rocks: "They notch in nicely with the pools and waterfall. I rescued some from Mt Eden prison, some from Eden Park, and the weirdest came out of a demolition job in Fort Street. They're unusual rocks, almost definitely not from New Zealand." He suspects they were ballast in the old sailing ships.

His demolition business practices what Peter preaches. For example, they take discarded concrete to their yard and crush it to be used in the base for new building sites and roads. His own house is built on a crushed concrete base.
For all it reflects the Wards' passion for recycling, the house also incorporates modern features. "We've got solar water units on the roof; double glazing; insulation everywhere and underfloor heating." They've also got wood fires. "We built a country home," Katrina says. "We wanted the rustic, homely look, where cats and dogs feel at home too." She worked closely with their architect, Jan Hurley of Pukekohe, to ensure they achieved this.

While Peter and Katrina's motivation has resulted in a most original, eco-conscious, sustainable house, featuring threads of Auckland's history woven into its construction, the focus on recycling, according to Peter, 'also makes good business sense'. "It's smart business practice

to use and re-use. It's part of our business plan to divert whatever we can from the landfill and we've been doing it for over 20 years. It's saved the company money – and enabled us to create this distinctive home."

Client: Peter and Katrina Ward

Designer: Jann Hurley
Telephone: 09 23 89 459

Roofing manufacturer:
Franklin Long Roofing
Telephone: 09 238 9249
Email:flr@ihug.co.nz
Profile: Corrugate COLORSTEEL®
Colour: Ironsand

Builder :Alistair Stanton
Telephone: 09 2947 192

Roofing Contractor:
Mark Rose Roofing
Telephone: 09 2360 454

SCOPE NEWS AND VIEWS

After 22 years of dedicated service to Dimond and the metal roofing and cladding industry, Gregg Somerville has accepted a new challenge with Prysmian Cable & Systems who manufacture electrical and fibre optic cable.

This represents a significant loss to the roofing industry as Gregg's inspiration, dedication and industry knowledge has won him considerable respect across all segments of the roofing and the building industry.

Gregg recalls his 22 years of industry experience and the tremendous commitment made by many to improve both products and services within the industry. The formation of RANZ and the development of the NZ Metal Roof and Wall Cladding Code of Practice - the first NZ code of practice to be produced by any industry body. Individual companies have introduced new products such as Zincalume and longer span roof profiles. These and many other product developments have significantly enhanced the durability and cost efficiency of metal roofs.

Gregg began with Dimond in 1988 as technical / product manager for "Floclad" a new innovation to meet architectural design trends. At the time this product required considerable technical support giving him the opportunity to become directly involved with some impressive buildings and designers throughout the country.

From these beginnings Gregg moved into a general technical support and sales role involved in the launch of V-Rib used to drape large commercial buildings. He recalls the logistics of transporting 25 metre sheets by rail from Dunedin to contract sites throughout NZ. Today, in Gregg's opinion, this enduring V-Rib profile remains one of the best available on the market. Gregg then moved into sales and branch management and spent considerable time up-skilling with a Diploma in Business (Marketing) from Auckland University. This supported the change to roles focused on marketing and product development and with in this period saw first hand the birth of the significant role the Web would play in the future of the industry. Dimond went from no web site to static pages to a fully interactive website that now offers technical manuals, product information and more over the space of only a few years.

Amongst the milestones that Gregg is particularly proud is being part of the team at Dimond that developed new products such as Dimondek 630 and the recently launched DP955. These products were highlights as they challenged what was thought possible changing peoples assumptions forever.

As an executive member and vice president of the NZMRM for a number of years Gregg has witnessed and been part of huge changes at an industry association level, from the Code of Practice to the development of the in house publication - Scope and who would have guessed 10 years ago that the MRM would have a subcommittee dedicated to sustainability!

The MRM, the executive committee, the sustainability committee and the committee for Scope all acknowledge Gregg's industry knowledge, positive and dedicated contributions to the numerous projects undertaken over many years.

Gregg's input and positive attitude will be sadly missed and we all wish him well for his new venture at Prysmian.
Gregg can be contacted at:
gregg.somerville@prysmian.com

Gerard Roofs make two new appointments in sales and marketing.

2010 will hallmark changes for Gerard Roofs who are implementing an aggressive market share growth strategy in both the domestic and international arena. "Gerard Roofs have consistently been market leaders in the manufacturer of metal tile roofing in New Zealand and the new strategy has prompted the recruitment of two top performers in their fields," says Peter Lamb, Gerard Company Manager.

James Ewart will be responsible for the companies ongoing commitment to the Australasian region and Dean Lee will spearhead local marketing activities. Both will start with Gerard mid August and the company is looking forward to utilising their experience to grow the metal tile roofing sector.

Dean Lee appointed Marketing Manager for Gerard Roofs.

Dean Lee has over 12 years experience in the building industry, initially with Winstone Wallboards where he started in the laboratory before making the change to product management and most recently with Carter Holt Harvey Wood products where he held a senior marketing role.
Armed with a science degree Dean's strengths are in marketing products and systems which are technical in nature - translating technical concepts into terms the market can understand. Dean has a pragmatic approach to marketing and likes to understand how people specify and use products - you should expect to see Dean 'around the traps'.

James Ewart is appointed as Gerard Sales Manager for Australasia

James Ewart moves to AHI after over 16 years at James Hardie, most recently as General Manager of Sales. James has a strong building industry background across both residential and commercial, and has experience in roles ranging from project management and cost engineering through to sales and management. This related industry experience is combined with qualifications in civil engineering and a post graduate diploma in business.

Campbell Glennie joins Dimond as Marketing Co-ordinator.

Campbell joined the Dimond Business Development team as the Marketing Co-ordinator in July 2010. Campbell has had considerable marketing and market experience in both New Zealand and Australia. His former roles include marketing in Industrial Automation and more recently in sales in Bluescope Steel, Melbourne.

Campbell is keen to get involved in all aspects of Dimond's business and bringing new ideas to the marketing mix.

Contact details are
E-mail: CampbellGl@dimond.co.nz
Telephone: DDI 09 622 4296

HISTORY IN THE MAKING OF CONTINUOUS SPOUTING

BY STUART THOMSON

When one is asked to write a bit of history that means that you must be regarded as part of history too – (a bit of a worry). The word history comes from the word weid 'to see' and I suppose that it what it is, as the writer sees it. (E&OE - Errors and Omissions Excepted) The history of making metal roof and wall cladding and accessories in New Zealand is a big subject and this first article is about spouting and downpipe and the accessories that every roof needs.
The previous issue of Scope (23) mentioned that continuous spouting had been available for nearly twenty years, however it is believed that this reference was to mobile machines, - taking the machine to the job. The idea of continuous spouting is much older than that.

The story starts before the war – yes the 2nd world war in the 1930's when all metals came mostly from Great Britain as part of our Commonwealth days of loyalty to the 'old country'. Imports were controlled by import license which were held by a tight knit cartel of the NZ Plumbers and Hardware Guild.

A young Stuart Thomson making 6 inch downpipe from 'Titan Best' imported from U.K.

Their names have now all but disappeared, but they were the companies that dominated the Wellington scene for many decades. John Duthie, Briscoe & E W Mills, A &T Burt, C& A Odlin, Plumbers Ltd, Plumbing supplies.

Independent manufacturers supplied these merchants with eight foot lengths of spouting, downpipe and ridging to their order on the proviso that the steel or copper was bought from them. When war was declared in1939 imports of metal virtually ceased with only a dribble coming from neighbouring John Lysaghts in Australia.

Plumbers were roofers in those days and they were called up for overseas service like everyone else. However, a percentage were retained because plumbers were regarded as essential for the health of the nation and they were exempt for essential war work. We (Thomson Metal Industries) 'eeked' our way through the next five years with metal supplied through the Army Stores Board and produced spouting, downpipe and ridging for Army camps at Trentham, Paekakariki, Titahi Bay and Anderson Park.

Above: Alan Brockelsby taking a load of ridging spouting and downpipe from the "Thomson" Metal Industries yard.
Below: Owen Marshall in the Tay Street yard (About 1957)

During that time the Government still built a few Government Houses but they, in true patriotic style used three piece wooden spouting and wooden downpipes, We installed the outlet above the base of the spouting so that it would always be wet and therefore watertight – like the old wooden tubs. This didn't work too well over the summer though when they dried out and the first autumn rains came!

Farmers were given a ration of galvanised iron as it was recognised that a lot of NZ farms relied on tank water supplied via spouting and downpipe.

These same restrictions were imposed on the use of steel until 1954, during which time demand exceeded supply fourfold because new corrugated iron for building was prohibited and galvanised flat iron could only be legally used for window and door flashings.
The worldwide shortage of steel, and government controls on the importation of galvanised iron, meant that alternatives had to be found. Cheap corrugated aluminium was imported from Japan, made out of scrap from melted-down Zero fighter planes or any other aluminium that could be found. The alloy content was not well controlled and because it contained copper, it often pitted and corroded to perforation within a few years, particularly near the sea. It was used for spouting and downpipes but it could not be soldered.

We imported Alclad Aluminium from Alcoa (Aluminium Company of America) which was a very strong copper alloy, clad with pure aluminium and was pretty hard to form but extremely difficult to braze. The material was only 24swg = 0.56mm and as aluminium does not get red hot, to get it to the right temperature without putting a hole in it was quite an art. Having mastered it I became a tutor at the nighttime welding school run by the Acetone Welding and Illuminating Co (later to become NZ Industrial Gases) in Thorndon Quay. This taught plumbers how, but also provided a bit of pocket money to augment my meager apprentices wages.

About this time plumbers, who had their numbers restricted by Union requirements, found that there was more money to be had doing sanitary plumbing than roof plumbing and this part of the trade was picked up by unregistered plumbers or anyone that was so inclined. The Roofing Industry was born.

I remember a memorable meeting of the Spouting and Downpipe Association when, because of the monopoly, the manufacturer's margins were being squeezed (what's new) and the merchant markup regarded as exorbitant. When we threatened to sell direct to plumbers we were told in no uncertain terms that if we did, we would be out of business within the year!
What happened next really solved the problem anyway. When the new steel mills in Great Britain finally had material to export it was offered in coils instead of sheet and

1957 Marshalls had made five machines and sold them to A & T Burt, Dan Cosgoves, B.J.Moss and A.C.Brockelsby.. Pictured here is Noel Marshall beside the early Marshall spouting machine (Owen's Brother)

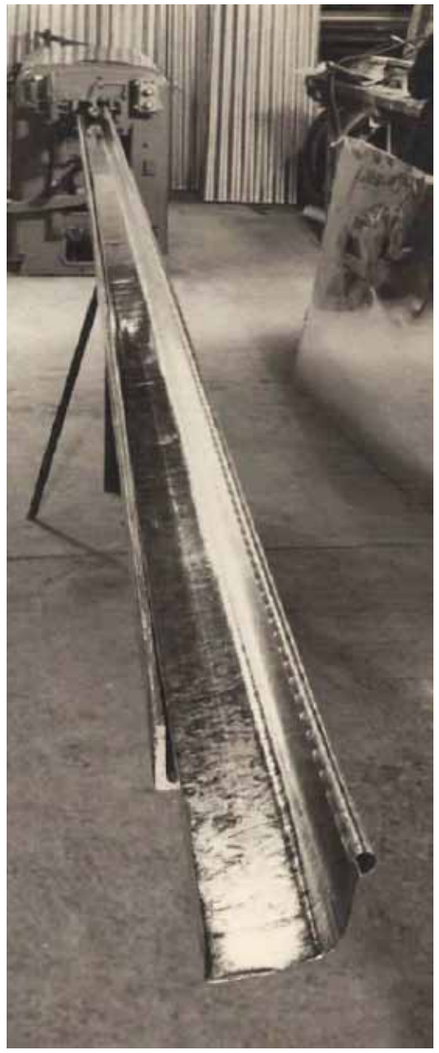
new importers like Richard Thomas Baldwin and A.M. Satherwaite, Gollins, Nathans, and John Burns all obtained license to import and sold direct to the manufacturer without any strings. The task then was to make machines that could continuously manufacture long length product without the restriction on eight foot sheets.

I had the opportunity on my OE to visit the rolling mills of British Steel, Alcan and ICI and quickly recognized where the future of our industry lay. Roll forming was in its infancy but it was an expensive method geared for a rate of production that appeared out of proportion to New Zealand's market need.

There were a number of manufacturers at that time who were faced with the same dilemma but this is where Kiwi ingenuity works best. No money but an opportunity, an open market and the will to succeed. Everyone has their own way of doing things and there is always more than one way. The first roll forming machines were built by overseas engineers who designed a machine to ' b…. well go where I tell it'. A more empathetic approach is taken by a sheet metal worker who prefers a softer line.
Rollforming is rather like bringing up children. One needs to set the rules, let them do their own thing, while still keeping them under control. Most times it works, sometimes it doesn't!

Fifty years ago there were only a very few companies world-wide producing roll forming machines and for those that were, their cost was prohibitive. For this reason early roll forming machines and tooling in New Zealand were all home grown. The writer attended the COE –the College of Experience, graduated with a CTE – Certificate of Trial and Error with 100% pass in making all the mistakes there were.

Metal coil was bought from many different mills world-wide, which could not be sent back and as a consequence the variation from coil to coil meant that constant adjustment became part of the roll forming operation. A common method of tool design was to fold up a section and then 'unfold' it and divide it into segments giving the number of roll stations.



Marshall's first machines made 300 feet of ¼ round continuous spouting per hour.

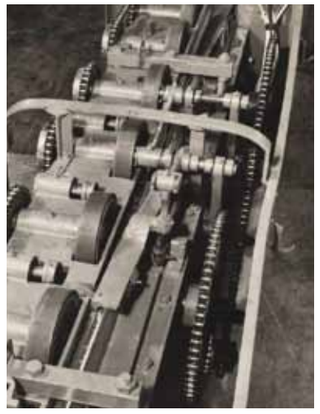
It is believed that our first NZ pioneer to make continuous spouting and downpipe was Owen Marshall of Invercargill. Marshalls made their first machines between 1955-57 making 300 feet of ¼ round continuous spouting per hour. By 1957 they had made five machines and sold them to A& T Burt, Dan Cosgoves, B.J.Moss and A.C.Brockelsby.

The early days were challenging but quite exciting. The aim was to produce an acceptable product with the least capital outlay, so that meant buying a second hand lathe and turning only the important rolls. Our driving rolls were 6 inch flat pulleys that were used for factory overhead shaft drives for machines before individual motors became common. Also because our company had a lot of scrap aluminium we cast aluminium rolls which were easy to machine.
In 1960 our first rollformer was producing roof cladding but in Mt Roskill Auckland Nes Irwin had beaten us to it by a year or so.

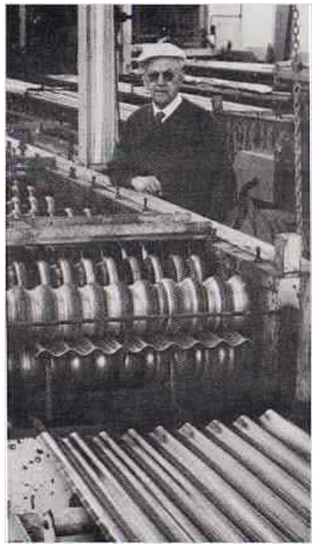
Joan and Gary Irwin write
Our father Nes Irwin, designed and built the first machine to produce cut-to-length spouting in Auckland around 1962. He purchased a small South Bend Lathe to turn some of the components and fix them to the machine, often with just G Clamps to see how (and if) they would work. More than once he was referred to as "The G Clamp Engineer".

The quality of coil has improved and now we have very sophisticated machines made by specialist engineering companies. Today the men that own the machines or operate them do not necessarily know how they really work.
The stringline has given way to the laser, and drawing board has now been superseded by the touch screen. What was an esoteric art has been unravelled by IT, however the variables are the same today as they have always been - known as the 3M -Materials, Machines and Men.

Not long after this beginning a relatively cheap spouting machine appeared on the market that appeared to be better suited to New Zealand's limited production.
It was called a RIMA machine and was a real hybrid. It was not a roll former but a drawing type machine probably better described as a 'pusher'. The flat coils entered the machine where they encountered two feet, one above and one below the material. These feet were on a cam that inched the material through a series of shoes and formers and formed the material into ¼ round spouting or OG depending on the shoes and formers in the machine.
It's disadvantage was that it was painfully slow producing only a few feet a minute but its advantage was that it was cheap and a number of larger plumbing companies bought these machines for their own use.



Ridging machines followed and there were some weird looking machines following the 'Cookson' method which within a few passes held the material in place until the final rolls formed it.
Many hours of midnight toil were put into our first downpipe machine which besides making up to 4 inch pipe, produced miles of a 1,1/4 inch pipe that was then flattened to become a conduit cast into concrete pre-stressed panels and beams for bridges.



Auckland's rollforming pioneer, Nes Irwin beside the machine he built to produce New Zealand's first long-run corrugated iron. Photo © J.E.Farrelly

A company that was not part of the Plumbing cartel was set up by a renegade called Mr Dimond. Yes there really was a Mr Dimond!
H.H.Dimond bought a few derelict shops on Jessie Street in Wellington and had a ridging machine that could only work if it wasn't raining because their back yard was their factory. They also made spouting but we supplied all their downpipes.
H.H.Dimonds was finally bought out by the new shareholders of Dimond Industries who included Ted Howarth and Dave Williamson. Their first factory was on Waterloo Quay and they produced spouting and ridging but also fascia gutter to match the new Dimondek 300.
But that is another story.

(to be continued.)

If any readers have photos related to the history of metal roofing and cladding manufacture in NZ we would be grateful if you would contact Scope or Stuart Thomson. www.metalroofing.org.nz

For further information on Metal Roofing or Cladding or details of any of the articles which appear in this publication please contact any of the members listed below.

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