ISSUE 7

SCOPE

NZ Metal Roofing Manufacturers Inc.

PRESIDENTS FOREWORD

2004 has been a year of achievement for the executive of the NZMRM

With the 7th edition of SCOPE we are well on the way to fulfiling our vision of "Encouraging the specification of steel roofs and wall cladding products". The increasing input from architects provides an architectural perspective of case studies in Commercial and residential projects throughout New Zealand.

The association has undertaken a number of initiatives in the marketing of the Code of Practice which was produced to demonstrate best practice for the installation of metal roofing and wall cladding in New Zealand. A valuable tool for designers and installers which is vital in the new regulatory environment. We have also become Platinum sponsors of RANZ in order to promote and improve installation quality and to help address industry issues at an installer level.

We have undertaken a Marketing Research Project to determine the key benefits associated with the specification of steel roofing and cladding products which will clarify the position within the industry.

All in all a busy and productive year.

We trust you enjoy this 7th edition of Scope and look forward to your continued support in the next issue.

Darrell Back
President
The NZ Metal Roofing Manufacturers Inc.

SCOPE

NZ Metal Roofing Manufacturers Inc. Executive Committee 2003/2004

Darrell Back President
Darrell Back is the Managing Director of the Steelform Group of Companies.

Tony Barbarich immediate past President
Tony Barbarich is the Director of Business Development for Metalcraft Industries.

Gary McNamara Executive Member
Gary McNamara is the New Zealand Sales and Marketing Manager for Gerard Roofing

Philip Meyers Executive Member
Philip Meyers is the Marketing Manager of roofing Industries Limited

Warren Oliver Executive Member
Warren Oliver is the Managing Director of Franklin Long Roofing.

Gregg Somerville Executive Member
Gregg Somerville is Marketing Manager for Dimond.

Above is a brief introduction to the 2004 executive of the Association. 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.

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

Advertising and editorial opinions expressed in Scope do not necessarily reflect the views of the NZ Metal Roofing Manufacturers Inc., it's executive, committees or publisher unless expressly stated.

You can visit our website at:
http://www.metalroofing.org.nz

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WAIKATO INNOVATION PARK

Waikato, the agricultural capital of New Zealand is now the location of one of the worlds leading enterprises, Waikato Innovation Park.
The new Core Facilities building at Ruakura, Hamilton, is a global icon with the architectural aesthetic reflecting the development focus of "growing technology business".

Core Facilities Building Stage 1

The building's exo-skeletal structure and solid black facade were designed to portray a symbol of global prominence emphasising the Park as a World Enterprise. The mass internal space providing areas of communication and interaction within an incubator designed for Research and Development for agri-technological businesses.

The Park which was originally instigated in the 1980's has undergone a succession of prospective developments which finally culminated into a buildable project in 2001. The Parks purpose is to provide and engender science and technology based research and development and is strategically located between the Waikato University and Ruakura Research Campus. The park development is a joint venture between Tainui Iwi, Waikato University, Local Government through NZ Trade and Enterprise, Wel Energy Trust, Hamilton City Council and Trust Waikato funding for the development of the initial stage of the Park.

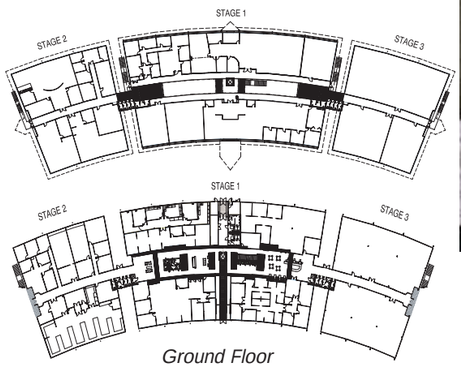
The site was once part of the Ruakura Animal Research Station, world renowned for its agricultural

Photography: Jane Sheldon Photographix

research and development. Innovation Park continues the objectives of the former Research Station with our aim being to commercialise the research being conducted with the research institutions rather than do the research. Centred around the aptly titled Core Facilities Building, businesses will be encouraged to move from the main building to other facilities proposed for the remainder of the Park. The notion of one business growing and expanding then relaying their knowledge and experience back into the new developing businesses.

The Core Facilities building, the first building on the site was designed to be developed in three stages with the aim to meet future expansion needs. Stiles and Hooker, under the direction of Architect and Director Gavin Robins, were commissioned to design and implement the Core Facilities Building. Located at the entrance to the Park development, the building provides a strong visual statement of power and permanence, an anchor for further complexes that will evolve on the 17 hectare site. It is the first of several planned for the park and houses a collective of established technology based companies located in the "Incubator" or "Business Accelerator" Centre. . Stiles and Hooker drew inspiration from the rustic farm building structures and dairy factories once prevalent in the region, an industry Stiles and Hookers own history is also based upon. Stiles and Hooker added contemporary architectural styling with the expectation that the result would signal modernity. Innovation Park is a symbol of modernity yet it poignantly reveals its strong connections to its agricultural and cultural history. Architect Gavin Robins was ardent that the design would reflect both future technologies and innovations as well as respect the heritage of the industry and of the site itself. The curved form engages the notation of outstretched arms of

Aluminium Joinery & louvre system by Origin gives both aesthetic appeal and function. The Glazing system was provided by Pilkingtons.



Ground Floor

Floor plans showing the proposed development of stages two and three.

welcome. The main entry located on the curve will be defined by a "Powhenua" anchoring the connection with the local Tainui Iwi lands at the completion of the Park Development.

The 3600m2 Stage 1 complex houses 15 technology based commercial tenants, a business incubator, laboratory and a Commercialisation Office to market innovative projects emerging from the incubator. The concept of the Park itself is one of change, growth and innovation which is reflected in the design of the Core Facilities building. Accordingly, the building is equipped with world class leading edge technology including fibre to each tenancy, cat 6 backbone throughout, Krone patch by exception, Cisco Avvid voice over IP, Hp thin client, Microsoft applications, Checkpoint firewall, Cardax FT security and Daikin VRVII air-conditioning.

Unique to the internal working of the building is the conceptual emphasis on circulation and common space. Formed around a curved crucifix spine, the central core becomes the focus, labelled the “street" for its parallel semblance to public meeting spaces such as streets and malls. Contained within a double height space the “street” is punctuated by peripheral balconies, amenities and services, comfort zones and air bridges linking the upper level spaces. Comfort zones and casual meeting areas are interspersed on the level one platform and form common meeting areas for presentations and discussions, serving a multi-functional purpose as public space, meeting areas, cafes, amenities, casual lease kiosks, circulation and graphic displays. All tenants within the complex share an interest in collaborative business environments, a poignant basis for the spatial design of the tenancies which are juxtaposed to the "street" encouraging interaction and the exchanging of ideas adding another view to the notion of Research and Development. The building acting as a resource to turn potentially valuable ideas into methods and products that can be commercially developed and marketed. The synergies between the various diverse tenants selected under strict and defined criteria, harbour and nurture new and innovative advancements in the agri-technological fields.The Interior Architecture of the space enhances the informal, often accidental exchanges of information and ideas.

The building structure is an exo-skeletal steel frame with comflor metal tee floor structure spanning up to 12 metres. Bryce Weal, Director of Stiles and Hooker and Project Engineer, managed a team of Engineers and Technicians who devised an innovative way of spanning these long distances. Black corrugate cladding was chosen for statement of power and dominance, its industrial appearance and ability to mold into the desired curve form, while large red aluminium louvres provide a visual contrast to the monotonal industrial materials. Downpipes are finished in Zincalume® coated steel accentuating the functions of the building, again providing an elegant reprieve from the solidity of the building structure.

Internally, the building continues this visual synergy of materials, the design reminiscent of industrial dairy and agricultural factories. The space is an open void drawing attention to the internal building envelope where services hover in the immense space. The soffit of the floor is exposed in the public spaces from which building services are suspended in an orderly array. Material elements of the building were selected to reflect the industrial/agricultural nature of

Development team of stage two. From left; Chris Zillwood Innovation Waikato, Ian Gilby Stiles and Hooker, Derek Fairweather CEO Innovation Waikato, Laura Monzon Stiles and Hooker and Gavin Robins, Director, Stiles and Hooker.

Interior Balustrades crafted from stainless steel by J.P. Marshall add to the aesthetics and modernity of the high tech image.

the region and where possible left in their natural raw state to reduce ongoing maintenance cost. Aluminium and stainless steel pipes and ducts are complimented by light glass panels and rich jarrah timber flooring. Colour is minimalist, neutral greys provide a backdrop to the rich materials implemented. Tenancy walls maintain a visual connection through glass panels, the joinery surrounding the glass panels constructed from "plane" trees felled in areas adjacent to the park some years previous. Each stage of the Core facilities building is linked to the other by way of a clear glass corridor. A symbolic interpretation of the existing and future links created through the Research centre locally, nationally and internationally. The exo-skeletal structure and exposed service networks were designed to express the technologies that would generate from within as well as providing ease of access and flexibility for extensions. The core working organs are expressed to emphasise the building as a living, functioning form.

The Schindler Lift (partly showing at top left) is transparent, a specific design feature allowing occupants a vista of the complex.

Stiles and Hooker. Company Profile

Stiles and Hooker is a well established and highly experienced Hamilton and Auckland based consultancy. Renowned both nationally and internationally Stiles and Hooker has successfully completed prestigious projects throughout New Zealand, Australia, Papua New Guinea, The Republic of Ireland and Hong Kong.
Established in the 1960s, Stiles and Hooker formed a unique partnership between Architecture and Engineering. We believe that our multi-disciplinary company offers our clients the “added value” throughout the design and implementation process.
The team of 27 professional staff members and 3 support staff offer expertise in Project Management, Architecture, Structural and Civil Engineering, Interior Design and Fire Design.

Stiles and Hooker team of Structural and Civil Engineers, Architects, Interior Designers, and Technicians specialising in Commercial, Retail, Civic, Healthcare, Education, Industrial and Residential Projects, with a strong history of successful design projects Stiles and Hooker provides innovative designs while demonstrating competence and knowledge of the entire construction process.
Its diverse team allows an array of design styles from contemporary through to cultural and heritage buildings. The synergy between the Architecture, Interior Design and Engineering disciplines allows the creation of innovative and unique design solutions and maximises quality and cost performance.

Engineers at Stiles and Hooker are responsible for all the Major Industrial Plants with specialist expertise in the Dairy Industry. The team has successfully completed projects for major corporations including Fonterra, Anchor, Inghams, Sanfords, Riverlands and numerous Commercial and Industrial projects.

Our Core Philosophies implemented throughout the design process are to:

1. Provide innovative solutions for Architecture and Engineering.
2. Design Cost Effective solutions to meet client budgeting needs.
3. Ensure a high level of performance on all projects within given time frames and budget constraints.
4. Formulate a successful team with the Client, Architects, Engineers, Designers, Consultants and Stakeholders.






From the left
Gavin Robins
ANZIA Registered Architect
Director

Bryce Weal
BE NZCE MIPENZ
Registered Engineer
Director

Iain Brown
ME CEng MIStructE
IMPENZ IMPENZ
Registered Engineer
Director

Ian Gilby
NZCD
(Architecture)
Associate

StephanThurman
BSC
Associate

Tessa Roulston
BDES Interior
Architecture
(Honours)
Interior Design
Manager

Architects: Stiles and Hooker Ltd.
Gavin Robins
Telephone 07 839 1254
Fax: 07 839 1255
e-mail: admin@stilesandhooker.co.nz

Engineers: Stiles and Hooker Ltd.
Bryce Weal.

Mechanical/Electrical Consultants:
Micon Engineering

Construction Managers:
Arrow International Ltd.

Tenacy Fitout Design:
Stage1 Maunsell Ltd.
Stage 2 Stiles and Hooker Ltd

Structural Steel:
Waikato Steel Fabricators

Roofing/ Cladding Manufacture:
Wall Cladding: Dimond Corrugate
Roof: Dimond Spandek
Internal Ceiling: Dimond perforated Corrugate
Telephone: 0800 Dimond (346663)

Roofing/ Cladding/ Ceiling Installer:
Project Roofing Ltd.
Telephone: 07 849 1700

Comflor Suspended Floor: Corus

COUNTRY STYLE. GETTING IT RIGHT.

Kim Bouman was approached by clients to design a home with an indoor-outdoor focus to accommodate their active lifestyle plus the extended family and guests. The result is superb.

Architectural Designer Kim Bouman has over the past seventeen years built a solid reputation in the South Auckland area with her firm Franklin Architectural Design Services Ltd. The majority of her clients contact her via referrals which is testimony to the design service she provides. Mr. and Mrs. Wood approached Kim to design their new home in Ramarama because they had been through a home she had designed which was similar to their brief and met the criteria they were determined to achieve.

The location has a superb rural aspect overlooking a small lake and wooded area on the family farmstead. Well situated for the sun the design incorporates various outdoor living areas opening from most rooms in the home, with the lake linking all these areas via the expansive lawns.

A sweeping drive leads to the porte cochere, then flowing through the double entry doors guests encounter a distinctive curved stairway linking the upper level with a bridge that has views out to the farm and ranges beyond.

This home has a relaxed air about it, sitting comfortably in its surroundings the Corona Shake roof enables the complex roof shapes to wind together with the textured surface complimenting schist exterior walls and cedar weatherboards, sunlight striking the walls and roof throughout the day create shadow plays along the faces of the building, with skylights and the cedar solarium windows repeating this effect inside the dwelling.

Five bedroom suites, an office, formal living areas and large family areas plus the triple garage form the basis of the layout with bedrooms scattered to provide privacy for both occupants and guests. An unusual feature is the roof glazing on the eastern face that folds down into the private decks allowing light into the living areas below as well as views from inside the bedrooms on the upper level.

The gazebo is positioned to capture late afternoon sun and shelter on windy days with a deeply recessed outdoor dining area opening off the family area allows entertaining in any weather.

I believe the texture and style of corona shake provided all the attributes required and my clients readily agreed, Kim says," the combination of schist, Corona Shake and cedar achieves a timeless ambience to this country home and its outstanding setting."

Clients: Mr & Mrs Wood

Architectural Designer:
Kim Bouman
Franklin Architectural Design Services
Telephone: 09 238 8272
Mobile: 021 228 7751
e-mail: franklinarch@xtra.co.nz

Main contractor: Pukekohe Builders
Telephone: 09 2387758
e-mail: supstone@ihug.co.nz

Roofing Manufacturer:
Gerard Roofs
0800 104868

Roofing Contractor:
Harvey Roofing Centre Auckland
Telephone: 09 978 9020

Profile: Gerard Corona Shake
Colour: Charcoal

IMAGE BUILDING

Bailey Tanks, established in 1974, is at the forefront of the plastics rotational moulding industry in NZ with a product range that grew from liquids transport containers to potable water storage tanks. Baileys is now a one stop shop for domestic and agricultural customers, providing complete installations of pumps, fittings, pipe, filter systems and valves. The growing business created the need for a bigger factory, which would also house the sales and administration functions of the company. Whilst function was the driving force Director, David Bailey, recognised the new building was an opportunity to publicly present the company's image as an innovative manufacturer of quality products. Architect Paul Clements was engaged to interpret detailed operational and aesthetic requirements into a design concept which achieved a maximum of corporate identity and visual distinction within tight economic constraints.

"The sensitive use of materials and combination of finishes ensured that the client's objectives were met and the finished building, with its strong exterior and subtle interior appearance exceeded Baileys expectations," says Paul Clements.

The interior of the administration facility features an atrium skylight which allows natural light to flood into the reception from the stairwell and second level balcony. The stainless steel and timber stairway presents an interesting central feature which appears to float above the entrance to the second floor balcony.

Interior walls utilise Dusted Crystal film on glass, and American Walnut veneers provide a simply detailed wall cladding with a striking paneled effect. Aluminium extrusions are finished in Silver Pearl powder coat, to match other metallic finishes. Exposed Hibond flooring is dramatically uplit to provide glare-free illumination accentuated with use of industrial pendant downlights beneath the glazed skylight.

In a departure from the more usual approach of attaching a separate structure to provide office space, the portal frames of the factory were exposed and office space constructed within the economical industrial envelope. The exterior office area is clearly identified by changes in the cladding and Sunshield louvres over the windows. These provide a strong, modern, horizontal contrast to the vertical factory cladding, but more importantly reduce solar heat gain.

Cladding to the factory and office components are standard profiled products, but the unusual use of a black finish provides a clear contrast for the huge white precast concrete signage panel, and the sparkling silver aluminium windows and louvres.

The in-house strengths in design and building technology provided by Paul Clements and Associates were teamed with those of specialist secondary consultants, and the construction management expertise of Mainzeal ensured a complete building procurement process.

Mainzeal and their subcontractors delivered the building in a very tight time frame, allowing sectional early occupation to ensure that there was no interruption to Baileys demanding production schedule.

David Bailey, who was involved with the concept and briefing process, speaks highly of the combined team design and construction team.

Paul Clements started his practice in 1992, with the aim of delivering stimulating and enjoyable built environments. The practice undertakes a wide variety of commercial, industrial, residential and retail projects, including corporate interiors. It is his firm commitment that all clients receive a complete, personalised service, guiding them through the design and construction process. "It's a great feeling to achieve completion of any building project, to have worked with a great team, to have complied with Resource Management and Building Code requirements and to have fulfiled the clients needs with a cost effective and environmentally responsible building".

Client: Bailey Tanks Ltd
David Bailey
Telephone: 09 262 7070

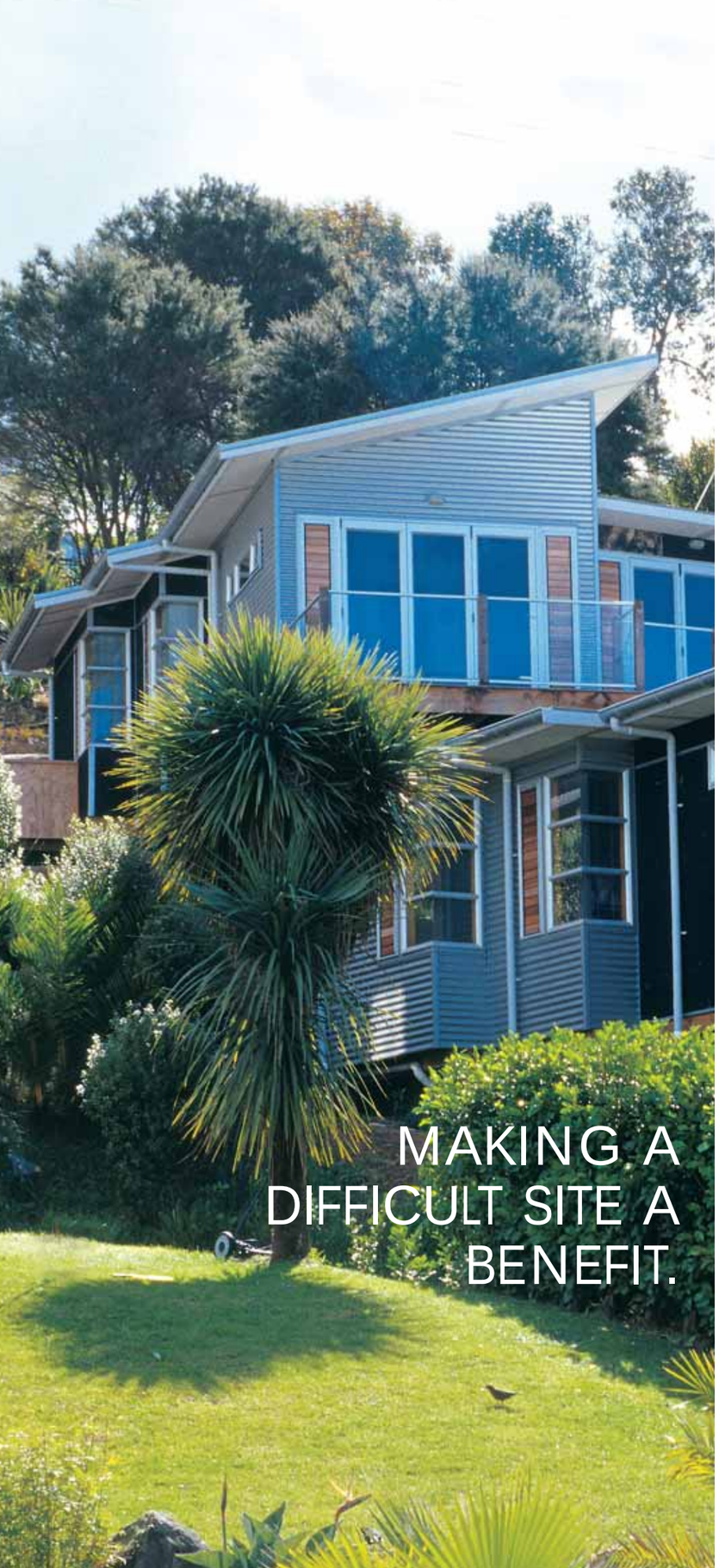
Architect:
Paul Clements and Associates
Telephone :09 521 0401
Mobile: 021 610 610

Main Contractor: Mainzeal
Telephone: 09 375 2100

Structural Engineer:
Day Consultants
Telephone: 09 488 7041

Fire Engineer:
Pacific Consultants
Telephone: 09 520 0439

Roofing and Cladding Manufacturer:
Metalcraft Industries Ltd.
Telephone: 09 273 2880
Installed by:
Metalcraft Industries Ltd.



MAKING A DIFFICULT SITE A BENEFIT.

Architectural Designer, Michael Manning, took the step many of us dream of and left the seemingly secure world of corporate design and employment to opt for a more relaxed lifestyle on Whangaparaoa Peninsular north of Auckland. Eight years on and Michael has seen the Peninsular grow from a somewhat sleepy hollow to one of New Zealand's fastest growing residential areas. Today he is enjoying the fruits of his commitment to excellence and seldom has to venture off the Peninsular for design opportunities. The demand for his work has grown by word of mouth and a reputation for lateral thinking which moves away from the all to frequent brick and tile developments. He has a distinct preference for natural building material such as stone and finds the combinations of materials enhance the overall feeling of each project. Not withstanding his own preferences he prides himself on being attentive to the budgets, aspirations and design styles his clientele is seeking. Each project is a new challenge and each is very different from the last. Michael views this difference as an important aspect of his work particularly as clients come from such a concentrated catchment where aesthetic and economics in resale value go hand in hand and drive the market.

DESIGN BRIEF

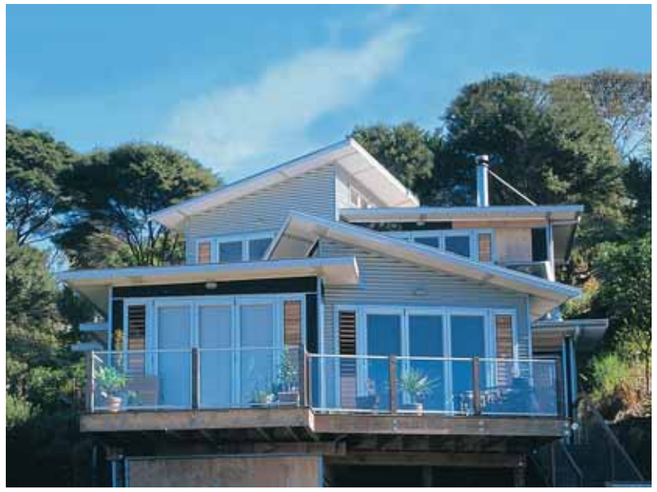
The client's of this Whangaporaoa project had some clear ideas about the style of their new home which was to be modern, take advantage of the seascape, work within their budget and not the least make the most of the very steep site.

To an extent it was the site and geotect limitations which dictated

Roof plains, material choice and attention to small details gives this home a unique point of difference.

The cascading stairwell provides a link to the two living modules and the upper stage provides light through the glass ceiling feature.

The lightweight pole construction gives the appearance that each stage floats above the next allowing every room uninterrupted views of the gulf.



the style of building. The site is very steep and narrow. The solution was to create three independent modules which cascade down the slope. The upper living modules are linked by a stairwell which features a glass roof which provides light, warmth and sea views.

The foundation is of pole construction giving the lightweight building a suspended appearance. The variety of materials add to the texture and the interaction of levels and plains give the home interest and aesthetic appeal from every angle.

The client was particularly interested in the use of corrugate metallic silver ZRX Colorcote® because of the "graphic"and linear appearance. Costs, maintenance and appearance all playing a part in this decision. The corrugated steel forms the majority of the exterior cladding and has been skillfully blended with stained construction ply for both the visual appeal and the structural integrity of the stand alone modules. (It should be noted at the time of photography these panels were in the process of being stained.)

Inset cedar panels around doors and window openings compliment the other textures and it is this attention to detail which has become the hallmark of Michael's work and creates the "differences" he strives to find for his clients. Simplicity is the art of good design and this is evident throughout this project. The limitations presented by the site have been utilised as benefits providing interest and an indoor and outdoor flow from every location in the home.

The roof pitch on some plains is less than 8% and in these instances butinol has been used. The various plains and pitches to the roof line have been designed to create interest and provide maximum opportunity for the residence to enjoy the panoramic view of the waterfront and gulf.

Client: Di & Alan Morgan

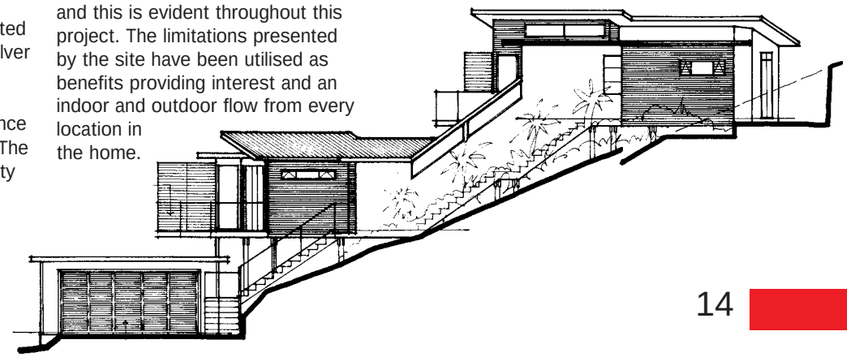
Architectural Designer:
Michael Manning
Manning Architectural Design
Telephone: 09 426 2255,
Mobile: 027 280 8689.
e-mail: mmanning@ihug.co.nz

Main contractor: Carl Arthur
(Arthur Construction)
Telephone: 09 422 6910

Profile Roofing and Cladding:
Corrugate metallic silver ZRX Colorcote®

Fixer: Main Contractor Carl Arthur

Joinery & deck barrier:
MINZ Aluminium
Telephone: 09 426 6040



A HOME TO ENJOY...NOT MAINTAIN

A retirement home for a Wellington couple presented our architectural team with an opportunity to develop a special solution for a challenging site. The client brief was to provide them with a home that was in harmony with their rural site. The house should be flexible enough to comfortably accommodate the couple and yet have room to expand when friends and family visit. Their expectation was to remain in this home for the long term and therefore the house needed to accommodate any future change in mobility. Minimising ongoing maintenance was another important factor. They preferred to spend their time enjoying their home, not wielding the paintbrush! Hamish Davies, now with Avery Team Architecture Ltd, initially led the design team. With his move overseas, Jane Kelly, now a director with Bell Kelly Beaumont Team Architecture Ltd took over the project at the documentation stage.

The semi-rural site is located on the lower reaches of the Tararua Ranges, north of Waikanae on the Kapiti Coast. The lower extent of the site is swampy, inhabited by pukeko, and is bounded by the main trunk line and State Highway 1. A thick pine plantation occupies the middle third of the site with a collection of gum trees dispersed across the remainder.

The environmental considerations including the noise, orientation and wind conditions directly dictated the location, form and finish of the new house. The upper third of the site was chosen as the best place for the home. A careful selection and removal of gum trees was sufficient to allow a building platform and courtyard to be cut into the slope. This maximised the sun and views as well as allowing the pine plantation to become a screen to shield the house from traffic noise and the prevailing northerly. The approach to the house is from the east down a long drive from the road above, which has become a journey through a well planted landscape. The first view of the house, a collection of simple buildings, is when you turn the corner at the bottom of the drive. Even at this point a sense of privacy is maintained as the buildings face west away from the entry courtyard. The glass front door is the only glimpse of the light and airy interior of the house and beyond to the trees. The dark grey aluminium framed door contrasts the solid ochre plaster wall that forms the western edge of the courtyard and the back spine of the house. This

Photographer: John Bucklow.

protective spine is the barrier between the public and private spaces. It contains the passage and service rooms and links the living spaces that spread out in a line opening up to the north-west to catch the sun and views.

Kapiti is renowned for long, hot, dry summers, therefore at an early stage the effective management of the interior environment was critical. The collection and storage of large quantities of rainwater and the provision of shading and summer cooling while capturing the winter sun were important drivers of the design. The large simple roof form allowed rainwater to be harvested and stored for use in the house while the north west facing garage roof became the obvious place for solar collectors. The freestanding boat shed roof provided a further means of collecting water, this time for garden use. The mono-pitch roof and the use of double glazing on the west wall draws the sun deep into the living spaces in winter. Heat is stored in the polished concrete floors for release as the sun goes down. In summer, louvres along the west face limit the sun penetration.Temperatures are further controlled by high level opening windows allowing the hot air to escape. Louvres along the back corridor allow cool air to be drawn in to the house while security is maintained.
The desire to capture and use effectively as much of the solar potential of this site prompted the installation of solar panels on the garage roof. These feed the hot water cylinder that supplies the northern end of the house. The separate bathroom and two guest bedrooms at the southern end of the house is designed to be shut off from the remainder of the house. With it's own supply of hot water it is necessary to only service these areas when visitors are due. The environmental considerations extended to the most appropriate disposal of household waste water. An anaerobic and aerobic treatment system is used to produce odourless high quality treated water from the household waste water. This is then dispersed in the pine plantation.

Responding to our clients brief for the use of maintenance free and environmentally sensitive materials for the house was another important factor in the design. The strategy used was to avoid, where possible, the need to access high level areas. This led to the decision to wrap the north, west and southern facades and roof in Zincalume®. The Zincalume® was continued over the high roof fascias and barge boards. Pre-finished soffit lining also meant that undertaking maintenance at high level is almost eliminated. Gutters that need checking and cleaning regularly because of the close proximity of trees were kept low and wide to the courtyard side of the house where access is easier.

The result is a home that incorporates the best elements of modern architecture and the functionality of considered environmental design. Through summer and winter the house is comfortable and temperate to live in and is well suited to the busy life style that retirement brings for an active couple. The client reports that even the concrete floors require little work and are forgiving of muddy paw prints!

Bell Kelly Beaumont Team Architecture.

The practice functions as a collaboration of the diverse skills of Warwick Bell, Jane Kelly and Peter Beaumont. They, along with a team of talented young designers and technicians, are committed to excellence and innovation in the design and management of construction projects.

The Directors have a strong base of residential work, including both new homes and alterations to existing houses amongst their work history. This is complemented by a diverse range of commercial projects from retail and hospitality fitouts to the development of aged care facilities and industrial projects. The common thread through all these projects is the care taken by Bell Kelly Beaumont to ensure that each project is handled as a unique set of conditions, with the client requirements and site potential considered as a fresh challenge requiring an original and innovative solution.

Architect:Jane Kelly
Bell Kelly Beaumont Team Architecture Ltd.
Wellington
Telephone: 04-499-6123,
e-mail:JaneK@bkb-ta.co.nz

Roofing / Cladding manufacturer:
New Zealand Steel
Corrugate Zincalume®

Roofing / Cladding installer:
John Clutterbuck Roofing,
Telephone: 04 298 8799

AN ARCHITECTURAL MONSTROSITY?

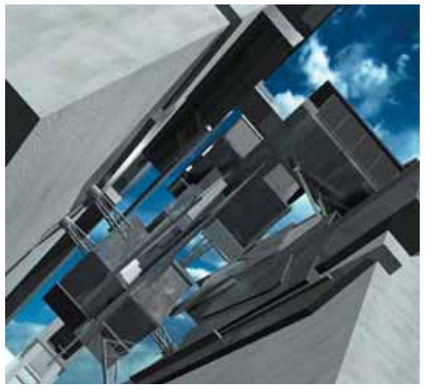
By Carl Douglas
Design staff supervisor. Auckland School of Architecture

The Frankenstein House, by Alex Teoh, winner of the NZ Metal Roofing Manufacturers Association Second-Year Residential Prize for 2004.

Thanks are due to the NZ Metal Roofing Manufacturers Association for sponsoring this award and encouraging New Zealand's potential radicals.

How can architecture continue to be new? This was the central question of a second-year design studio at the Auckland University School of Architecture regarding architecture and revolution. In the hothouse environment of the undergraduate studio it is sometimes hard to believe that there are any new shapes, materials or arrangements possible for architecture. Where, then, is it possible for architecture to be radical?

Alex Teoh's Frankenstein House was one of a group of projects which questioned the role of the architect. His earliest investigations imagined an spiny organic architecture which lived as a parasite on the remains of more prosaic buildings.



Bottom view of the refuge/House for Dr. Frankenstein. Placed on a currently vacant site on Queen St. between Shortland and Ford St.

Subsequently, he produced a series of two-metre square abstract images by dipping wooden sticks in paint and dropping them onto the paper hundreds of times. Each line could be given approximate guidance, but was subject to a degree of uncertainty. The images were not simply chaotic or random (in the strict sense of having no order at all). The rules of the game were set by Teoh, and he controlled the output in order to produce spatial images.
The residence is proposed for Dr Frankenstein, the tragic hero of Shelley's romantic novel. Teoh has spoken of his scheme as making reference to Frankenstein's taking refuge in the forest as a lost and lonely outcast. The two main spaces take on the character of clearings in a dense and inhospitable environment. The density of the forest also allows, however, for privacy and refuge, like a barbed-wire fence. In the final scheme, this forest becomes a tangled mass of steel shards and thorns which aggressively dominates much of lower Queen Street. The two clearings are centered on part of QEII square, and on a currently vacant site on Queen Street between Shortland and Fort Streets. The latter of these is designated the Refuge and is connected by a tunnel to the Entrance in the former.

Front view of the house.

The Refuge itself is elevated above the ground, a structural parasite, suspended from the adjacent buildings which define the narrow plot. No access can be gained except via the underground tunnel which connects to a lift shaft. The spaces of the refuge are formed from large steel shards. The construction develops strength by multiplying the intersection of planes, which would thus be structural themselves, rather than relying on a concealed substructure of beams and columns. The resident occupies these narrow wedges and angular volumes. At the centre of the Refuge, the house contains a white concrete cube containing a single space, Frankenstein's ultimate retreat. Lodged in the throat of this immense and aggressive architectural monstrosity sits an indigestible lump of traditional form, suggesting that Teoh reserves a place for the traditional as a place of comfort or nostalgia (the core of the Refuge).

The Tunnel space is a second remnant of the conventional, being a broad, low concrete underpass space. At the Refuge end, the steel shards of the fence cut through the ground and invade the subterranean access way, providing an indication of the metallic carnage above.

Although it is aesthetically challenging for those accustomed to modernist pavilions, Teoh's project is not simply monstrous in appearance. It is an easily-observed paradox that the most chaotic and complex structures are typically the ones that call for the most precision in construction drawings and techniques; the bewildering complexity of the steelwork underlying the shiny scales of Gehry's Disney Hall being a perfect example. It is arguable that although these projects appear to be wild, they are in fact the most disciplined of constructions. If one were to imagine taking a series of random inkblots, scaling them up and turning them into floor plans for houses, they might be formally liberated, but they would be constructionally constrained. The radicality of Teoh's project lies in the attempt to productively open construction itself to uncertainty and variation. Teoh's project deliberately opens itself up to uncertainties in manufacture and production. The monstrosity of the Frankenstein House is that it is not quite within the architects control.

The tragedy of Frankenstein's monster is that the doctor underestimates the autonomy of his creation. The monster has intentions and motivations of its own. In the same way, whatever physical materials an architect adopts, that material brings with it certain possibilities, limitations, and characteristics that do not necessarily match the architect's aspirations. It is the fear of anyone who works to turn ideas into material objects that the exigencies of the material will overrun the idea, consume it, and cause it to be lost.

The practice of constructing to tolerances provides a way to maintain control over the building as a complex constructional system. But computer-controlled production suggests new technical possibilities for construction. It is possible for a computer-controlled manufacturing process to be given a series of parameters, and output an infinite series of variations on a theme. The architect could become more like a shepherd, or like Teoh dropping his painted sticks: establishing the rules of the game; herding, rather than finely manipulating each detail in a futile attempt to gain total control.

If we are to imagine Teoh's proposal being built, the construction process would be radically different from current practice. There would be no set of strict drawings possible (except for components such as the tunnel, the lift and the core of the Refuge). To replicate Teoh's scheme, it would only be necessary to establish what parameters define the shapes of the steel shards, what kind of connections are possible, and how far to keep going (hopefully the process can be stopped before the city is consumed entirely).

Speculative projects such as Teoh's are necessary because they anticipate what might be possible. It must be admitted, though: the world is littered with the remains of possible futures.

The 'Fence' embracing QEII that protects the entrance way to an underground tunnel that leads to the house between Ford St. and Shortland St. through an elevator.

The preliminary conceptual process of a parasitic entity meta-morphisising the established "house".

The elavator placed in the tunnel that ascends to Dr. Frankenstein's house.

Reactionary by Alex Chin Lee TEOH (the design author)

The conceptual scheme: The revolution:

The revolutionary process began with the radical mutation of the familiar, the house.
The birth of a parasitic entity was injected into a house, altering the established. The process of metamorphism involves the deformation of the house and the reconstruction of a new emancipatory entity. The then unidentified object was challenged by the surrounding order and stood in a duel with the order of reality. However the process was left incomplete, the final order was left questionable.

'The role of reconstruction exists not merely as a matter of rebuilding but also as a matter of strategic demolition." – Fredric Jameson.

The counter revolution:
The death of the familiar left the unruly parasite in a state of hunger and violence. The inevitable deterioration foreshadows the death and destruction of the secondary element. The life cycle ends with the decay into skeletal form and finally, the fossilisation; the void created by death.

'…the essence of radicality involves being radical in loss and radical in anticipation" – Jean Baudrillard

The fatal passion: The radical house

The next stage of development calls forth the mapping of architecture as a chaotic system, questioning the limits of the vehement structure previously created. The path chosen was to push the boundary of the omnipotent structure, devoid of total control from the creator and signifying ambivalence. The process of mapping begins with spattering pigments across a vast expanse of paper. Adopting Pollock's process of split-second decision making and happenstance, the spontaneous and unrepeatable choreography and chance bestow life to the creation. These arbitrary paintings provided a blueprint for the configuration of the radical house; a fence that spans across two sites, protecting the entrance that leads to an underground passage way and into an elevator that ascends to a parasitical house that spans between two existing buildings. The house, designed for Mary Shelley's Frankenstein, echoes the attributes inherent in the character and the disposition of "parts" evident in Frankenstein's monster. The defiance of Frankenstein and his fatal passion to intervene and change the existing pattern of life and death was used as a form of expression for the design of the dwelling, a sanctuary that allows him to find a precise place that circumscribes peculiarity and anchors the value of individual identity. The reflectivity of the material deflects the light and amplifies the movements of the sun, changing our perceptions of the form as the passage of time changes, which constitutes the polarities palpable in the themes of Frankenstein.

The house feature design is the assemblage of the library, living space, bedroom and laboratory as separate 'parts'. The "heart of the house", also known as the bedroom features no windows but merely a solid block, a prison in which Frankenstein can escape from his insatiable passion.

'…To be simply new then is not to be radical. To be radical means to make a change in things, to make a difference in terms not only of quantity but also the concept and essence…' - Henri Lefebvre.

THE SOUTHLAND HOSPITAL CONTRACT

Construction on the new Southland Hospital in Invercargill is now nearing completion. Calder Stewart Roofing have supplied and installed more than 10,000m2 of Hi Five Roofing, 2000m2 of Hi Rib Mini Dek and 2000m2 of Easi Clad Sidings. All the roofing and cladding have been manufactured at Calder Stewart's Invercargill factory, using off white ZRX™, from Pacific CoilCoaters.

"We were very pleased to win this contract particularly given that the opposition's wall claddings were being sourced from Australia" says Brendon Monaghan of Calder Stewart.

Architects: Jasmax - Auckland

Installation:
Calder Stewart Roofing Ltd.
Telephone: 0800 115 232
www.roofer.co.nz

SCOPE NEWS AND VIEWS

A special thank you.

The Executive of the Metal Roofing Manufacturers Association wish to thank Dennis O'Sullivan for his many years of dedicated contributions to the association and in particular the value of his input into the research and development of the Code of Practices. The industry has benefited tremendously from both his dedication and experience.

Dennis Joined the executive in 1997 and became the Vice President in 2000 and it is with regret we have received his resignation for personal reasons. From all members of the Association we wish Dennis the very best and extend our gratitude for the many, many hours and years he has given to helping the industry and association grow in it's expertise and professionalism.

AHI Roofing training program a success

AHI Roofing goes to market with its distributors as a Supply and Fit offering. Whilst we can easily control the "supply" the "fit" is a very different matter. It is the fit that is key to our success as a business. Accordingly AHI has developed a program to gain and maximise a competitive advantage in the fitting of its products. The AHI national distributor network requires strategy that can be applied to both large and small businesses.
The strategy is in two parts:

1. A program to create a work force of Accredited Fixers to NZQA 10812 and 10813.
2. To reduce the average age of our tradesman work force by the recruitment and training of young people.

Persuading the contractors to forego earnings to sit in a learning environment is the first barrier. The second barrier was location. Offering incentives and on site assessment for 10808 Site Preparation and Safety for fixers provided the solution.

Accordingly AHI trained 9 Work place Assessors for Metal Roof Installation, by completing Work place Assessment NZQA 4098 at WINTEC. In particular the enthusiasm of Carolyn West the then Training Services Manager of the ITO was a vital ingredient in bringing the whole package to fruition. The first 29 Certificates of Accreditation have been presented to fixers nationally.
The second element of the training strategy is the recruitment and training of young people. This is a particular challenge as the education system no longer provides for the hands on trades. Young people do not seek to be roofers and it has become necessary to go and find the candidates. The mechanism has been to form a partnership with Auckland Trade Training Academy. ATTA is a training provider to the Ministry of Social Development. We are taking young unemployed people and creating roofers.
AHI has trained 60 young people from this program over a 3-year period.

"This education program has been one of my most satisfying projects" says Fendall Halliburton, product manager at AHI Roofing

A space meditation

The brief from the client, the Seven Ray Foundation, was to design a temple which provided a space for silent meditation and to act in the manner of a country church by being open for any wayfarer.

Design response

A site visit determined that the building be placed on a small knoll on the site, which dropped away to views of the Akaroa harbour to the North and West.

The six planes of the roof were separated from the eight-sided walls by a broad soffit, allowing the differing geometries to sit happily together.

Roof panels and ceilings have been articulated to express their six-sidedness, and were thought of as 'petals' during the design. The horizontally-seamed finish of the roof alludes to this concept.
Copper roofing was chosen as a natural complement to the site. Over time it will weather to a dull reddish-brown, and depending on the environment, to verdigris. The ceiling terminates in an oculus which acts structurally to support ceiling trusses, let in light and also ventilate the building.

Architect: Hugh Tennant Architects
Telephone: 04 382 9248
e-mail: hta@clear.net.nz

Installation:
Calder Stewart Roofing Ltd.
Telephone: 0800 115 232

New Colour Range from ColorCote® Pre-painted Metal Products

Pacific Coilcoaters is pleased to release its supplementary colour card for the ColorCote® ZR8™, ZRX™, AR8™, and ARX™ products, containing colour matches to the New Zealand Steel range of colours.

Pacific Coilcoaters has taken the decision, following customer feedback, to make this range of colours in the ZRX™ / ARX™ paint systems and the ZR8™ paint system. The benefits of this are that any colour can be supplied in a range of systems to suit all New Zealand conditions, and puts no limits on architects and customers when specifying colours.

Note that the colour names vary between suppliers, and so this must be taken into account when ordering material.

For further information on ColorCote® or to have the latest colour cards sent to you contact Pacific Coilcoaters at:

Pacific Coilcoaters
PO Box 12046
Penrose
Auckland

Telephone: 09 579 9199
Fax: 09 579 7515

Website:
http://www.colorcote.co.nz

ColorCote® Pre-painted Metal Products releases On-line Warranty Inquiry form

Pacific Coilcoaters has launched its On-Line Warranty Inquiry Form for pre-painted roofing and cladding materials.

Designed in consultation with our customers and the NZ Metal Roofing Manufacturers, it will provide Architects, Rollformers, Specifiers and Roof Fixers with a quick and easy method of getting a pre-approved warranty for roofing and cladding for a specific job before commencement of the work.

This means that the correct ColorCote® product can be specified for that job. Additionally, Pacific Coilcoaters can advise on design aspects and any special considerations that may be required for the building.

Follow the link
http://www.colorcote.co.nz/warranty/warrantyapplication.asp
to access this service.

COLORCOTE®
PRE-PAINTED METAL PRODUCTS

When size does matter

To meet Turners and Growers requirement for a leak free environment in which to stock their produce, Cunningham and Partners designed a building that would set a new record - the longest roof sheet in New Zealand at 65.5 meters in length was manufactured on site in Dimond's new profile Dimondek 630. This allowed for very clean building lines (no steps required to join the roof sheets) and because Dimondek 630 is concealed fixed, any chance of a leak through a fixing hole was eliminated. For more information on this project refer to Issue 6 of SCOPE

Turners and Growers facility during and after construction setting a new record for New Zealand's longest roof sheet.
Architect:
Cunningham & Partners Ltd
Telephone 09 579 4031
Roofing Manufacturer: Dimond
Roofing Profile: Dimondek 630
Telephone 0800 400 222
Roofing Installer:
Mill & Newfield Roofing Ltd
Telephone: 03 351 9147

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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