


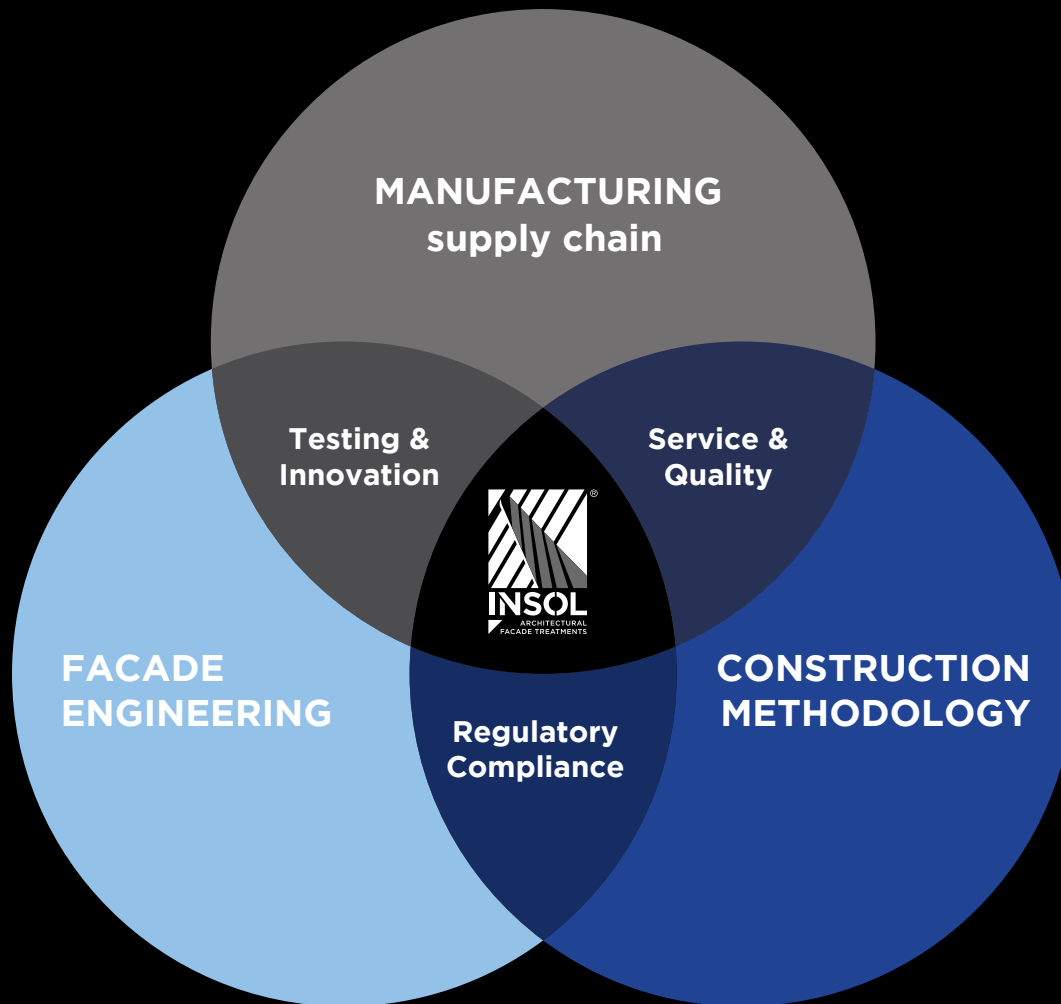
INSOL[®]

ARCHITECTURAL FACADE TREATMENTS



“We’ve built Insol on a culture of innovation and determination, we’re solutions focused, and we pride ourselves on having great relationships with our suppliers and clients - allowing for open and honest project planning and ultimately, to get an exceptional job done

GREG SIMMONS
CEO



Insol is a family business with roots in the construction industry that date back more than 60 years.

In 2003 we started out with a vision of providing architectural louvre systems to high end commercial & residential projects. We were inspired by what was trending and developing internationally, brought what was happening abroad to our shores and adapted it to suit the NZ market.

Over the years our innovative, dynamic, and solution focused approach has led to projects involving far more than just louvres. We are now completing large contracts as a full service provider of bespoke architectural facade enhancements.

Today we're proud to be a team of designers, engineers & project managers with a vast variety of skills and backgrounds. The large pool of technical knowledge and experience allows us to add significant value with design-build bespoke architectural facades. Our expertise in manufacturing and product design, coupled with our broad knowledge of architectural detailing and construction methodology brings solutions that are simpler, faster, and cost effective, while maintaining architectural intent.

Façade treatments have played a crucial role in architectural design for centuries. And today, architects can push design boundaries further than ever before with the smart application of technology. Architectural façades now contribute so much more to the aesthetics and performance of a building.

The design and performance possibilities are truly becoming endless.

Sophisticated facade treatments enhance property values and can communicate a profound message about the design and purpose of the structure. And intelligent design combined with innovative engineering can deliver solar performance benefits that contribute to the life-time energy efficiency of a building.

With today's stringent construction standards and the increasing complexity of project design and performance requirements, it's crucial to work with a professional and experienced company that you can trust to deliver on your architectural intent.

At Insol, our team of designers and engineers have a deep understanding of façade engineering. Our award-winning, innovative approach consistently out-performs others and exceeds expectations.

In this guide we showcase customised façade solutions that we've recently delivered for our clients to highlight the breadth of work and design and engineering excellence that we could bring to your next project.

Enjoy.

OUTLOOK APARTMENTS

Project Credits

Location: Kapa Road, Auckland

Architect: MAP Architects

Builder: Clearwater Construction

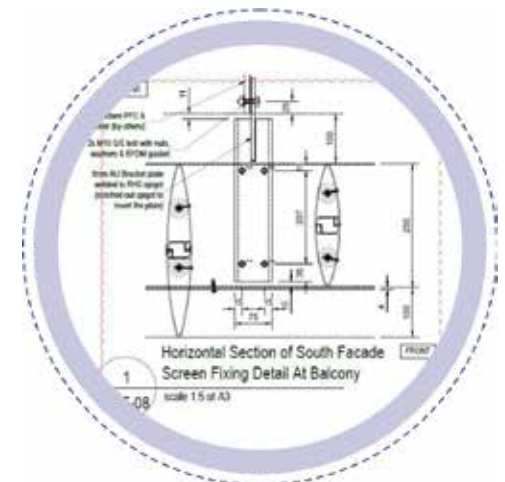




The Kepa Road facade features a veil of anodised aluminium tubes, hinting at movement and playfully following you as you move past with a shimmering reflection from the sun.

One of the main features is a screen of vertical 38mm diameter aluminium tubes that wrapped around the corners of the building. Computer analysis of the airflows around this feature determined that physical testing was necessary to eliminate the risk.

We then carried out physical 1:1 scale testing which confirmed we could proceed with the architectural detail and maintain the intent. The finished apartments shine with a unique facade that adds a rich warmth to the exterior. The light reflection on the facade seemingly dances as you move past, playfully setting the building apart whilst maintaining a high level of distinction.



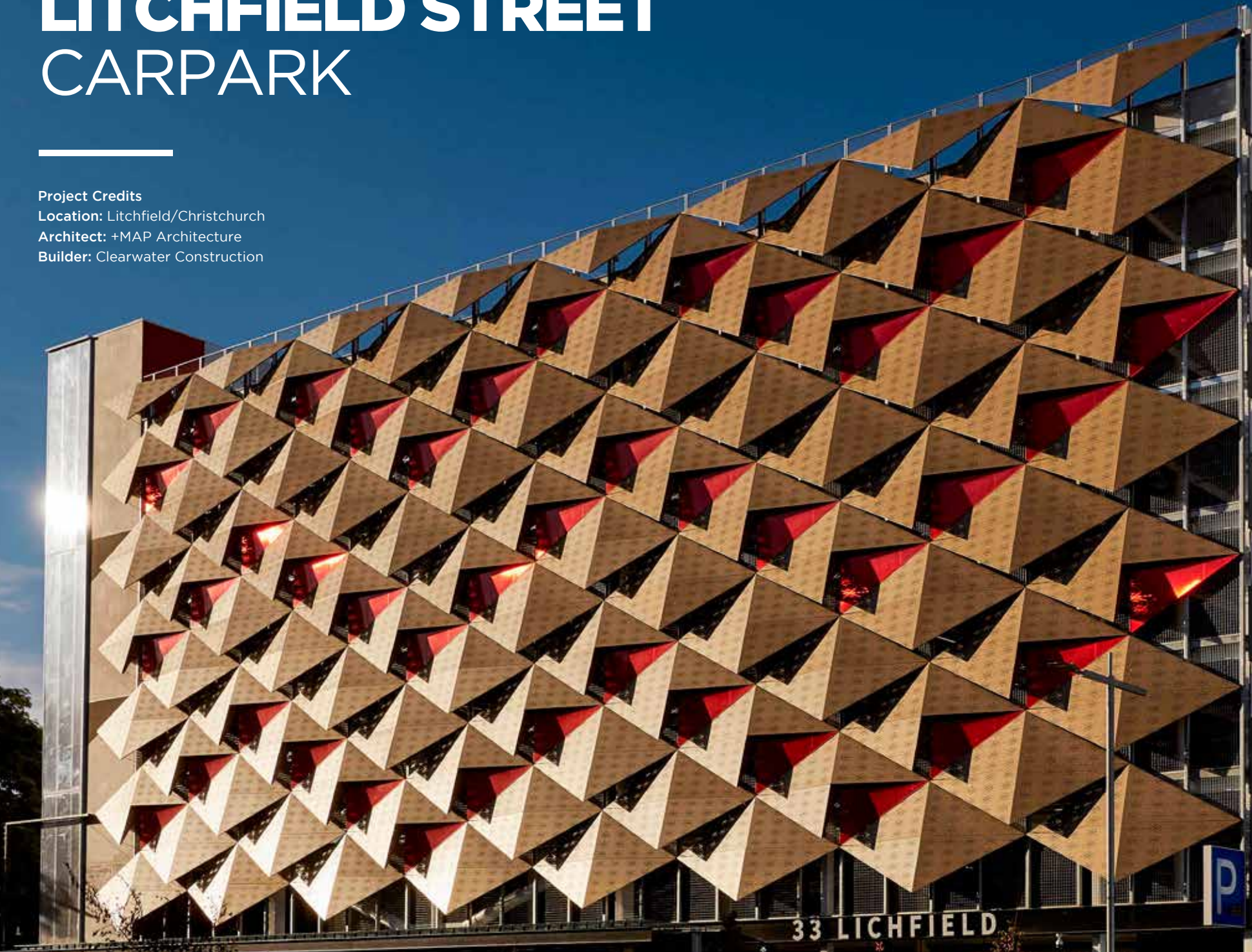
LITCHFIELD STREET CARPARK

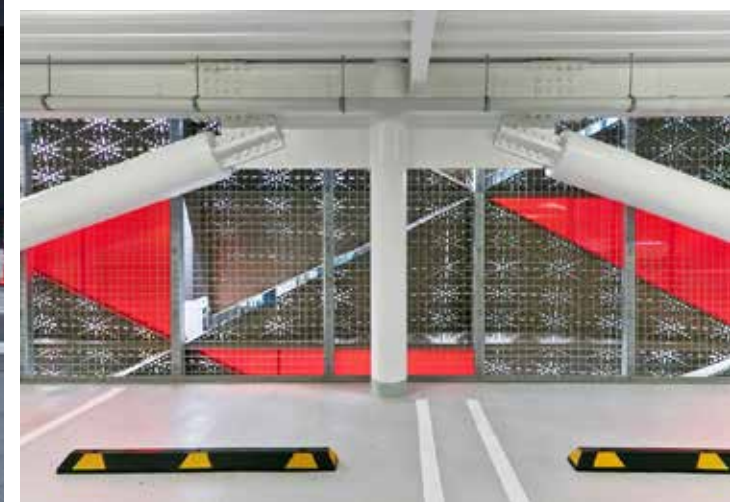
Project Credits

Location: Litchfield/Christchurch

Architect: +MAP Architecture

Builder: Clearwater Construction





The brief required a bespoke facade of perforated diamond shaped metal panels, angled out from the building face.

Our design solution involved:

- Improving structural integrity on large single-piece aluminium modules.
- A simplified method for attaching the whole facade to the primary steel structure.

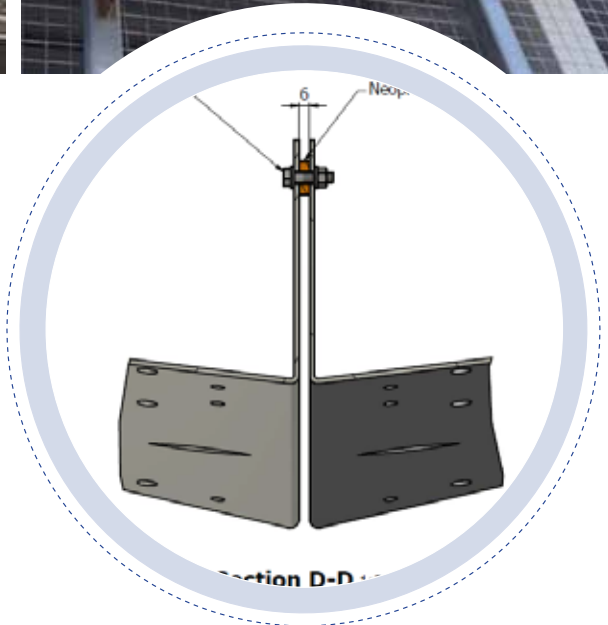
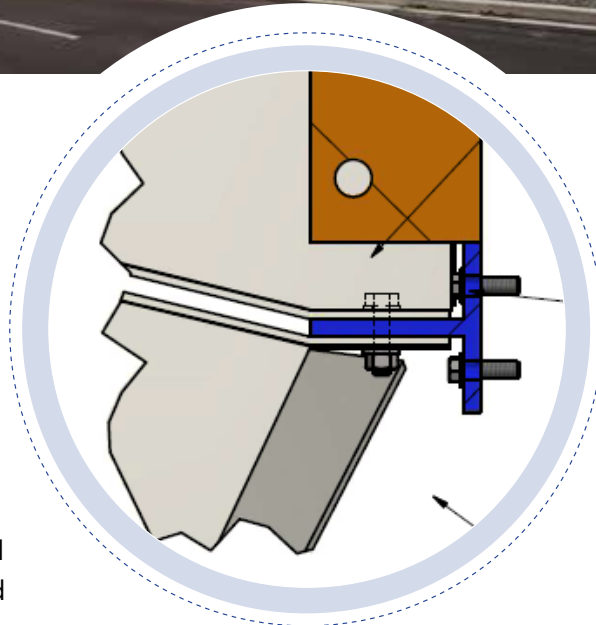
An additional extruded polycarbonate material for the translucent infills, and suitable fixing details to integrate it onto the facade.

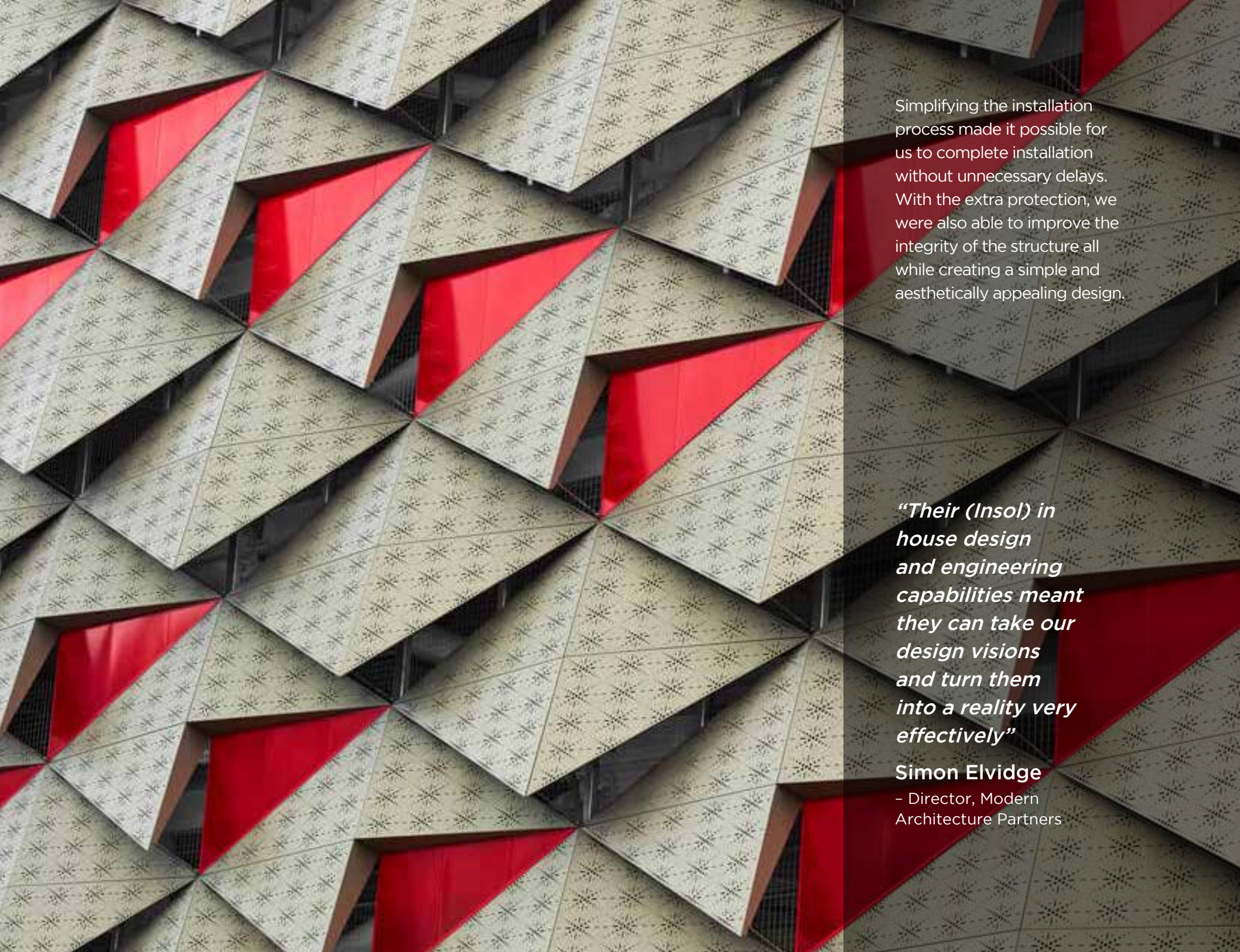
No extra equipment was needed as our construction methodology allowed every component to be lifted by hand and fitted from access machines.



Some of the key challenges of the project:

- Large single piece aluminium modules were beyond the scope of most fabricators
- Being located on a key roadway, the building had limited access for installation.
- To prevent unnecessary safety issues, we were asked to develop an additional barrier on the top level towards the end of the project.





Simplifying the installation process made it possible for us to complete installation without unnecessary delays. With the extra protection, we were also able to improve the integrity of the structure all while creating a simple and aesthetically appealing design.

“Their (Insol) in house design and engineering capabilities meant they can take our design visions and turn them into a reality very effectively”

Simon Elvidge

- Director, Modern Architecture Partners

THE HILLS LODGE

Project Credits

Location: Lodge at The Hills / Arrowtown, NZ

Architect: Anna-Marie Chin, Crosson Clarke
Carnachan Chin Architects

Builder: RBJ Ltd Builders





A very unique design, with a media room completely clad in motorised louvres to conceal the entire structure when closed.

The brief called for whole sections of the louvred walls to hinge away, providing access and unobstructed views of Lake Hayes.

The brief also required 4 panels of operable roof and 7 panels of operable louvres to be designed and fitted to the lodge.



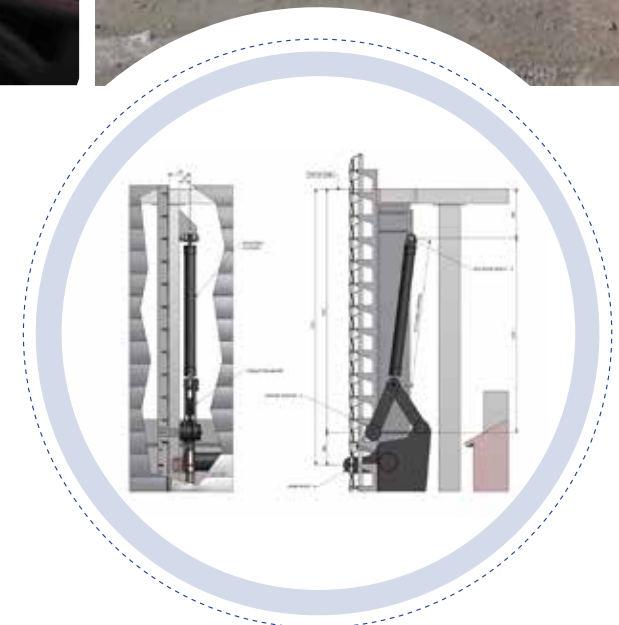
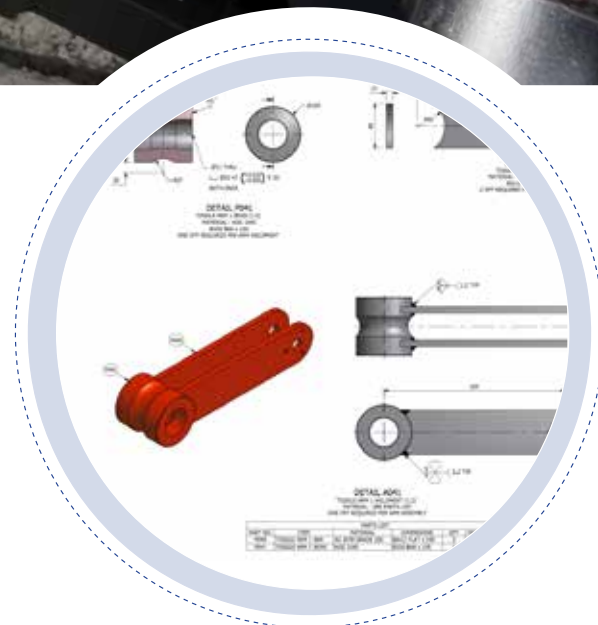
Each wall (9m x 4.5m) was assembled and tested at our factory, then transported to the site in one piece. Installation was completed by craning each wall into place and fixing off, ready for final commissioning.

Utilising our 150mm aurora rear pivot louvre system, we designed and engineered the entire structure, complete with a hydraulic power pack to operate the hinged sections of wall.



"We found Greg and his staff to be very professional, during the process of the construction at the Hills lodge. Insol worked very closely with the Architect and produced great quality of workmanship."

Perter Rogers & Paul Rogers
- RBJ Limited Company Directors





Fully integrated with the lodge building management system, the whole façade transforms at the touch of a screen, using 10 electrical actuators and 8 hydraulic rams.

The occupants can fully close the system to darken the room and enjoy watching the latest movie, or fully open the system for serene views and direct access to the outdoors.



GISBORNE DISTRICT COUNCIL ADMINISTRATION BUILDING

Project Credits

Location: Gisborne

Architect: Chow Hill Architects Ltd

Builder: Watts and Hughes Construction

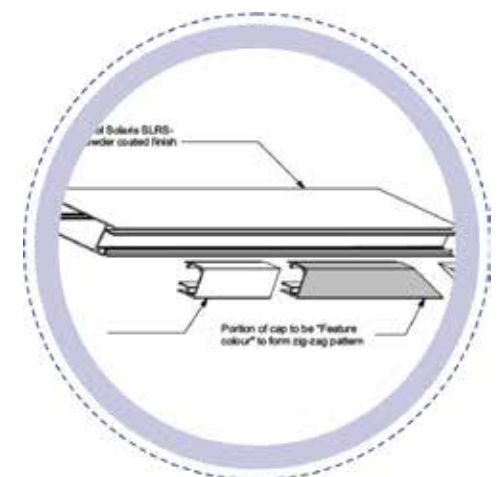


A building designed to reflect and represent the dual reality of the people, their history and the diversity in the community in the Tairāwhiti Region. The exterior takes its curved appearance from the waka and ships that sailed to the region, creating a lasting connection to place, people and the past.

Louvre blades were affixed via an adjustable mechanism. This allowed each individual blade to be manipulated to the perfect angle. The connection to the building was rolled to achieve

that subtle (and specific) curve, a specialist task only undertaken by a small number of experts in New Zealand.

The building was awarded the 2019 Gisborne/Hawkes Bay NZIA Local Architecture Award for Commercial Architecture.



XERO BUILDING

Project Credits

Location: Taranaki Street, Wellington

Architect: Inside Design

Builder: Arrow International





The project brief involved refurbishing an existing two level heritage building, adding three levels while retaining the original heritage facade.

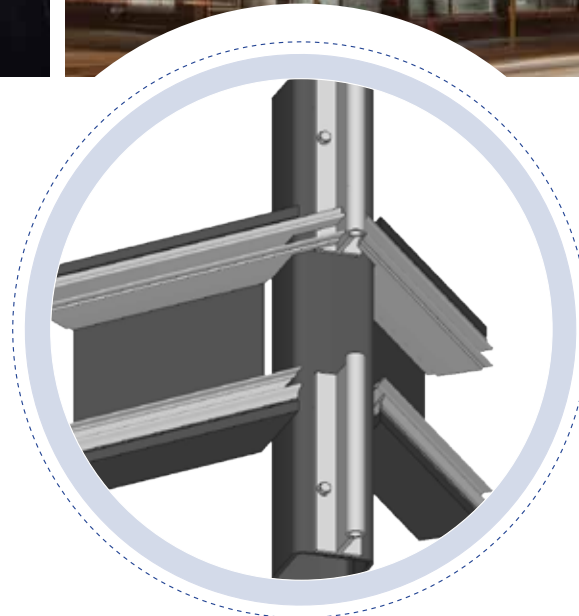
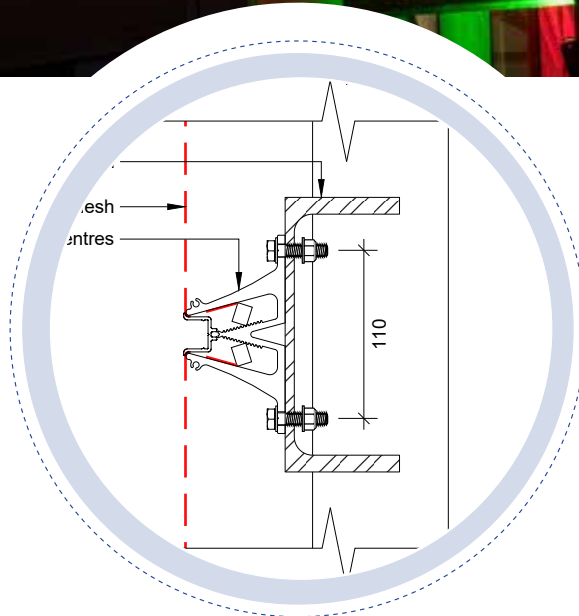
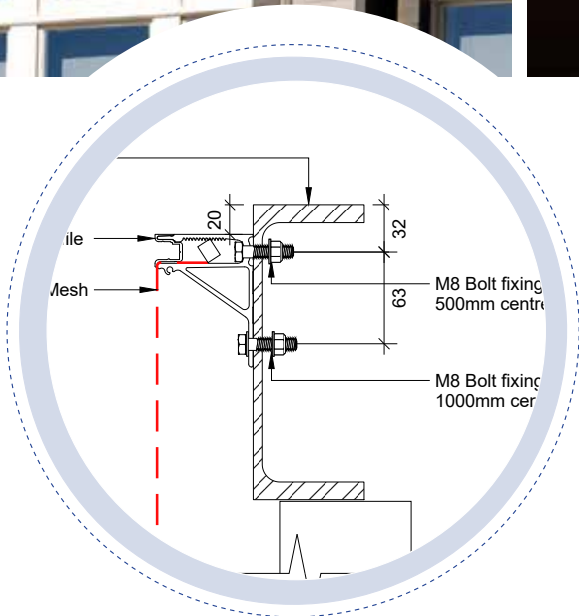
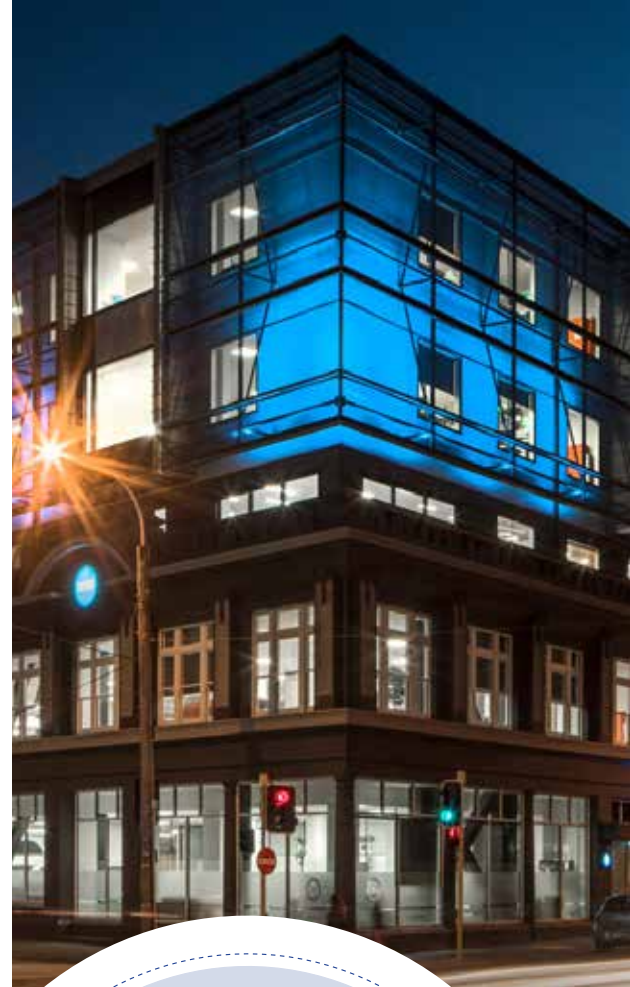
The new façade needed to make an architectural statement of its own but remain subtle enough so as to not detract from the heritage façade.

The architects chose Insol's Fabreçade system as an ideal solution for the new top three storeys. Insol worked closely with the French manufacturer of the fabric, and the client's project consultants to develop a suitable project-specific design.

To further increase the architectural appeal, back lighting was incorporated, creating stunning night-time graphical effects.

Some of the key challenges of the project:

- Heritage site.
- Exposed environment, with high wind loadings and corrosion levels.





The design showcases modern architecture's ability to complement a historic building's aesthetics while maintaining its architectural integrity.

The result is a realised design that showcases modern architecture's ability to complement a historic building's aesthetics while maintaining its architectural integrity.

"Insol are a great company to work with. They're proactive, they're helpful and particularly good on design."

Neville Parker,
Principal Designer
- Inside Design

BURWOOD HOSPITAL

Project Credits

Location: Burwood Hospital / Christchurch

Architect: Sheppard & Rout, Jasmx, Klein

Builder: Leighs Cockram joint venture





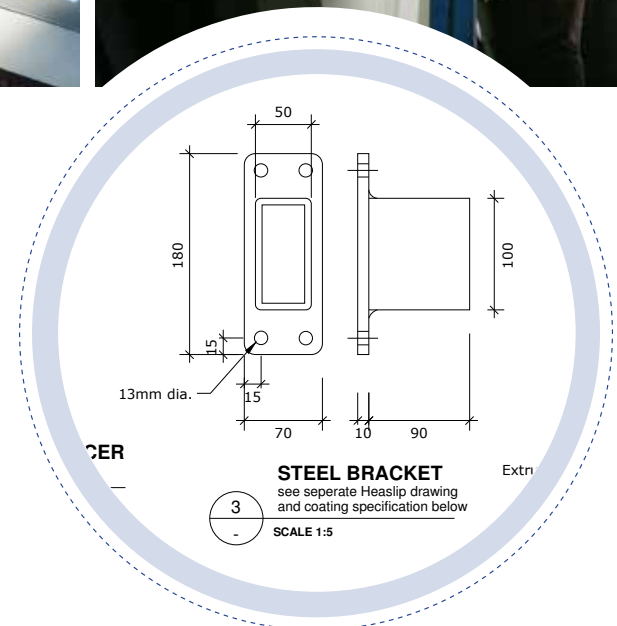
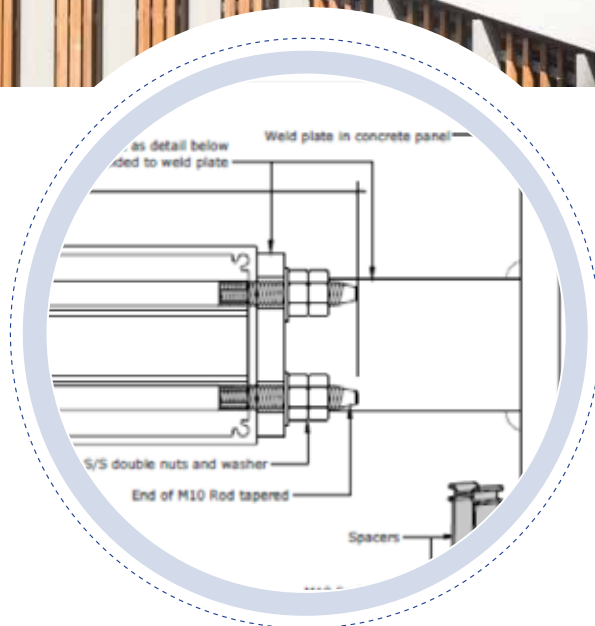
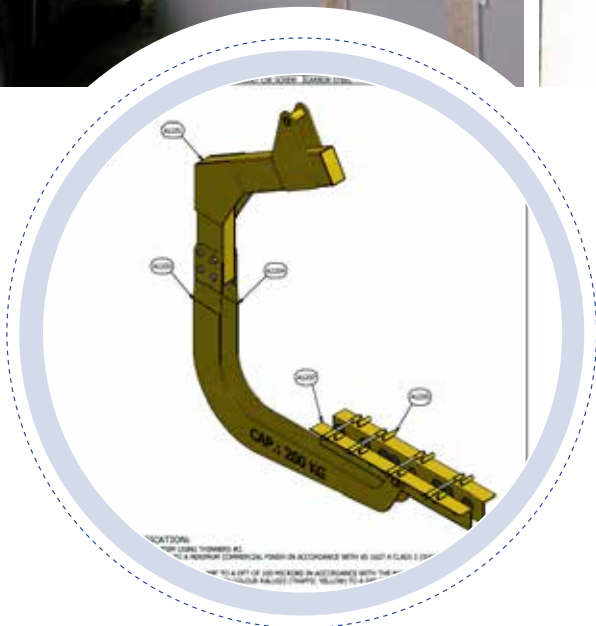
The brief was to create a buildable design for the main facade sun-shading elements, meeting the architectural intent while providing construction programme gains and cost savings.

During the tender process we identified engineering opportunities of significant value to the client and submitted these for consideration, and eventual acceptance.

Our design and drawing process involved comprehensive engineering involving CFD and FEA technology, along with physical testing.

Detailed attention to installation methodology resulted in the development of one-off lifting equipment that allowed fast, safe and effective installation.

We provided detailed information and maintained regular and open communication with stakeholders throughout the project. This provided a huge level of confidence in our work, to the clients and the consultants.





The installation of 800m² of high-performance DuoVent air-intake louvres and acoustic ventilation louvres, provide the ultimate in airflow, weathering and acoustic performance.

The bespoke façade consists of over 60 tons of aluminium, including 173 large Solaris sun-fins, measuring 8m x 1m, and 34 custom Solaris sun-hoods.

“It is a state-of-the-art solution that’s effective, beautiful, efficient and due to our alternative solutions and construction methodology we saved the client \$1m during the tender process.”

Greg Simmons
– CEO, Insol Ltd.

“The team at Insol were very professional and innovative in finding solutions.. their contribution to the project saved approximately \$1m. Insol is one of the most trusted members of our supply chain and they are very experienced and knowledgeable in their field.”

Dean Velenski – Commercial Manager,
– Leighs Construction Ltd.

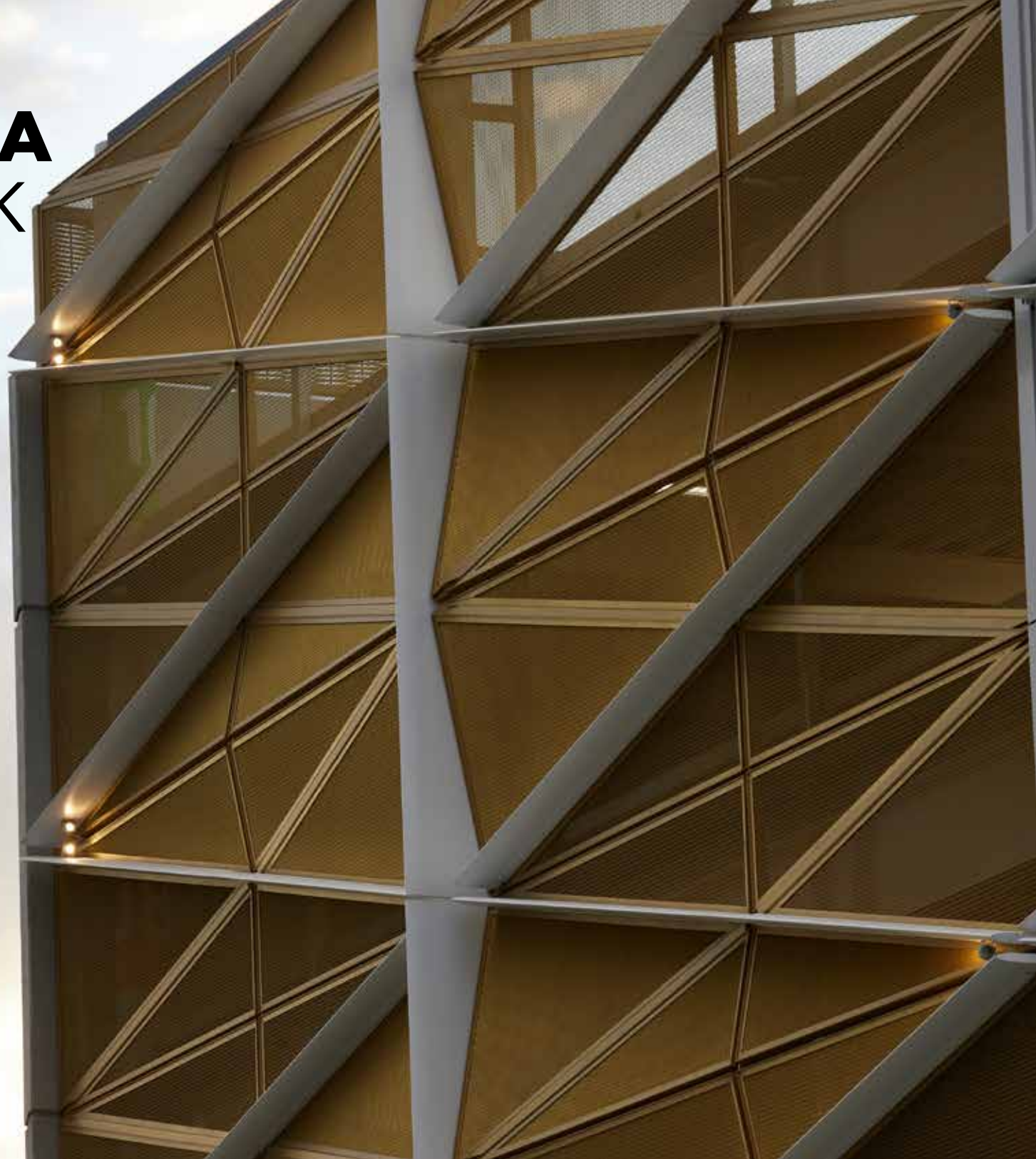
TOKA PUIA CAR PARK

Project Credits

Location: Takapuna, Auckland

Architect: Ignite Architects

Builder: Argon Construction



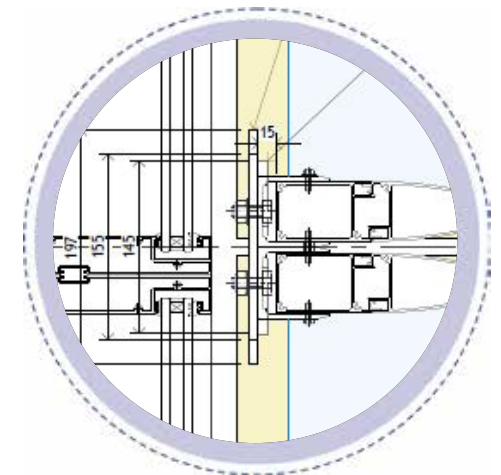


With an ambitious brief calling for a single skin mesh stretched over an open area, the vision for the car park was both compelling and challenging. In particular, the intended substructure would add complexity and likely, cost. The diagrid, which provides the reference to the historical site, adds a wonderful extra visual dimension but similarly came at a complexity related cost.

Working in close collaboration with Ignite, the design was refined and adapted to simplify the installation process and reduce cost at the same time. A daple textured mesh with a custom pattern was developed, the panel modules pre-fabricated and raised into place via hoist. It was a quick

and straightforward installation methodology, unveiling the 3 dimensional quality of the diamonds in quick succession to passers-by. By meeting the safety from falling regulations, the panels also served an essential, functional purpose.

Now complete, Toka Puia is a future-proofed facility that bookends trips to downtown Takapuna. By daytime, the golden Tukutuku panels welcome you in, acting as a beacon for travellers and commuters eager to start their day. As night falls, the lights shine down the white diagrid, invoking the history of the Gasometer building and connecting the temporary occupants with the past as they ready themselves to leave, casting the day into their own history.



SYLVIA PARK

Project Credits

Location: Mount Wellington, Auckland

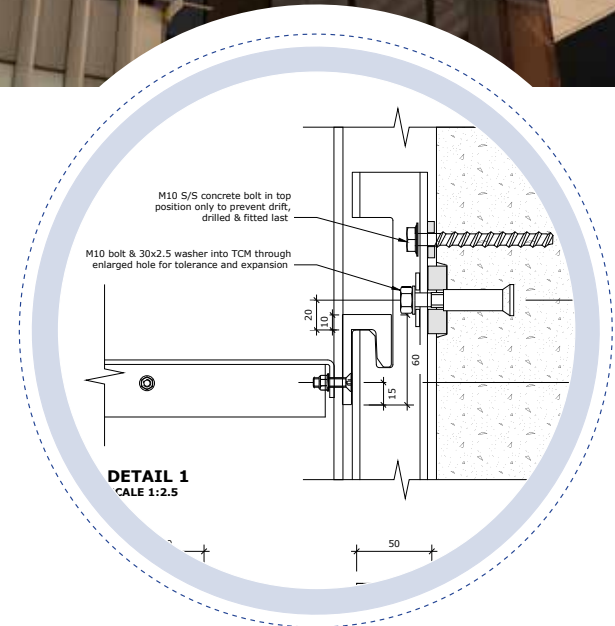
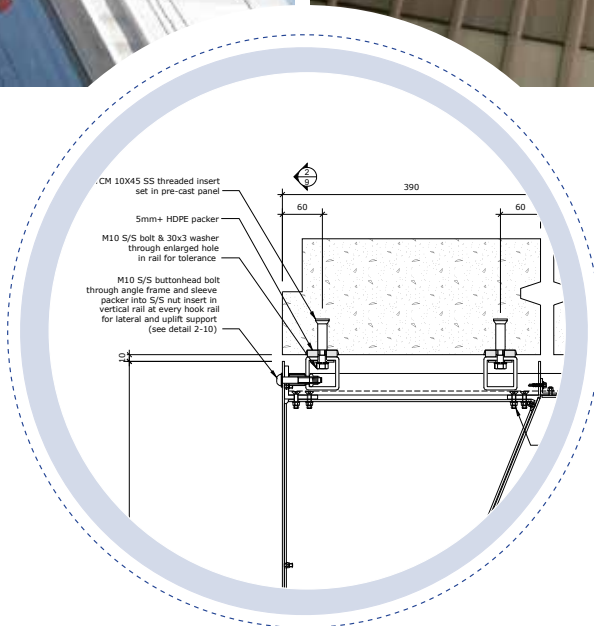
Architect: Architectus Auckland

Builder: Dominion Constructors





The brief required large vertical sunshade fins to the east and west elevations, and vertical louvres over the projecting corner window 'pods'. The purpose of the fins and louvres was not only to provide sun shading, but also to prevent reflection off the windows and remove the possibility of sun-strike for the vehicles on the nearby motorway. Insol were engaged on a design build basis to meet the Architectural intent.





After in depth evaluation and modelling of the wind loads, and a lot of consideration of installation methodology, we came up with a design for the fins that met the architectural intent, was economic, buildable, and had a simple installation methodology.

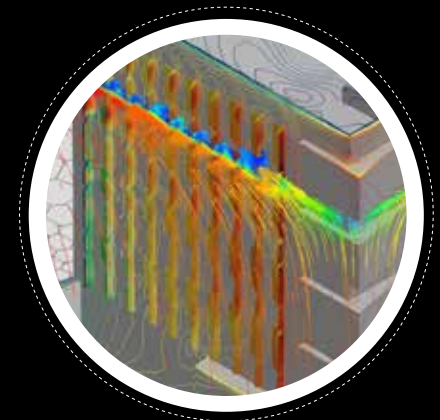
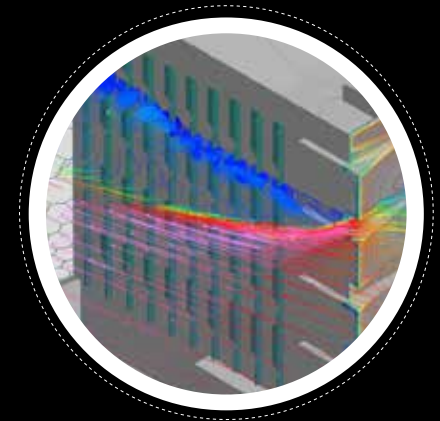
The design involved five new extrusion dies and a new hidden fixing system to mechanically attach the aluminium skins to the sub-frame.

Hook rails were bolted into cast-in threaded inserts in the concrete wall panels. Each fin was then craned into place and hooked to the wall using a combination of lifting eyes and suction cups to keep the fin hanging vertical. Finally the fins were bolted to the hook rails to prevent any movement.



We developed a cost-effective bespoke solution that delivered the functions and architectural intent, all within the constraints of the design-build model and existing budget.

The result is a visually striking architecture that helps shape the journey down to South Auckland.



KING EDWARD BARRACKS

Project Credits

Location: Christchurch

Architect: Warren & Mahoney

Builder: Southbase Construction

WEST END 



We were engaged by the architects to provide a full design-build service of the louvred façade to each end of the building.



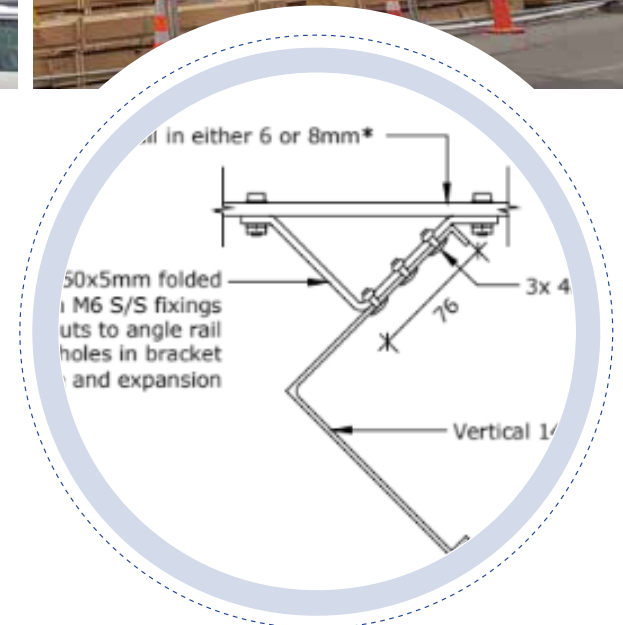
One of the key challenges was louvre profiles which were too large to be extruded by any New Zealand based manufacturers.

These oversized louvre profiles were then finished in a range of different shades of bronze anodising. Carefully selecting each subtle variation, they formed a rhythmic colour pattern over the facade.



We designed and engineered:

- a custom extruded blade profile that could be manufactured locally, allowing us to maintain tight control over the process
- a secondary aluminium support structure for the individual louvre blades, which would transfer the load back to the primary steel columns
- a concealed bracketry system to provide a clean and aesthetically appealing finish
- high-performance double-bank ventilation louvres (working alongside the window subcontractor), which were glazed into the window joinery frames

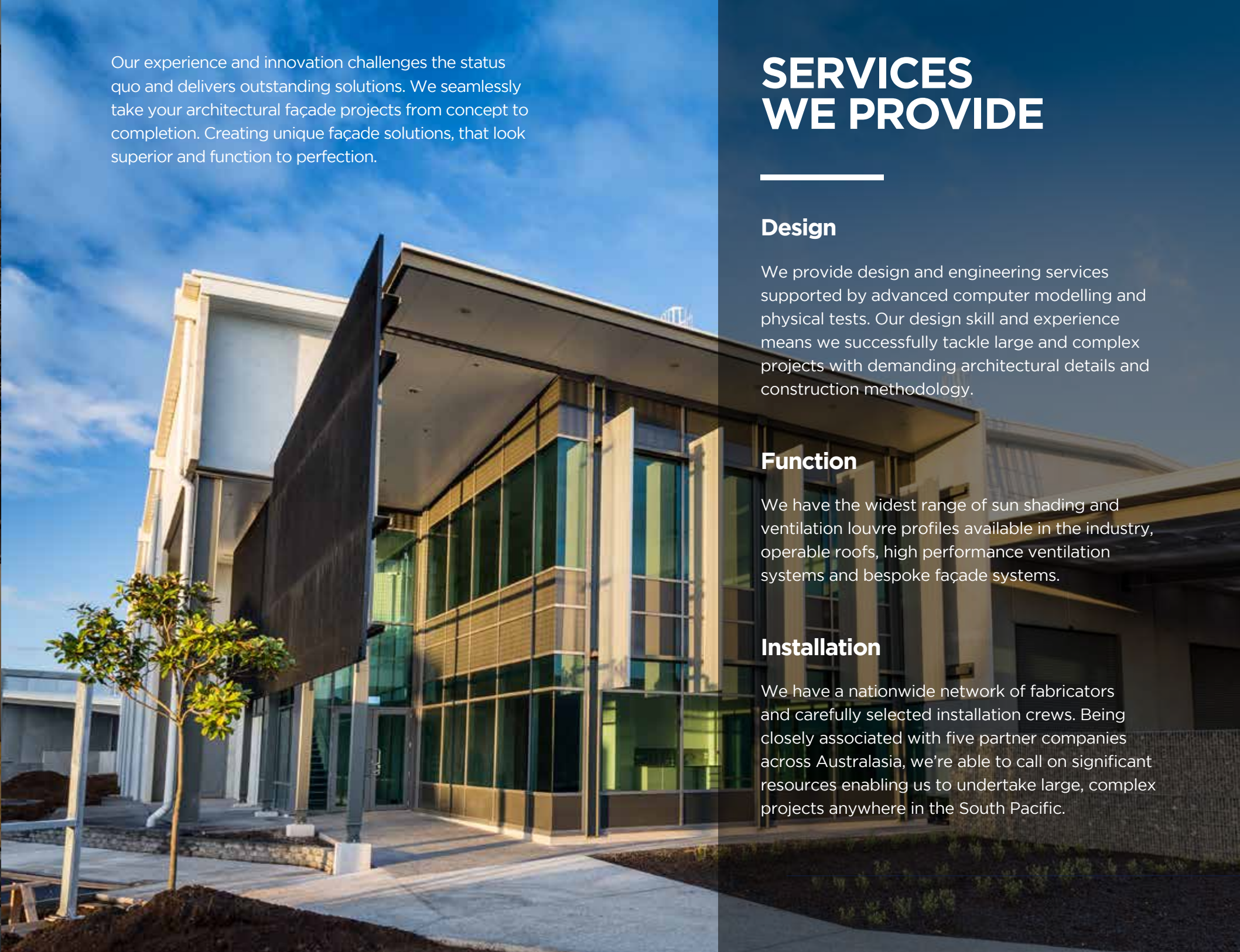




WEST-END P

Starting with the initial brief, we developed a structurally sound and buildable solution, whilst retaining the architectural intent.

The result is a high quality, functional and striking building which adds to the aesthetic appeal of the City as it continues to regrow.



Our experience and innovation challenges the status quo and delivers outstanding solutions. We seamlessly take your architectural façade projects from concept to completion. Creating unique façade solutions, that look superior and function to perfection.

SERVICES WE PROVIDE

Design

We provide design and engineering services supported by advanced computer modelling and physical tests. Our design skill and experience means we successfully tackle large and complex projects with demanding architectural details and construction methodology.

Function

We have the widest range of sun shading and ventilation louvre profiles available in the industry, operable roofs, high performance ventilation systems and bespoke façade systems.

Installation

We have a nationwide network of fabricators and carefully selected installation crews. Being closely associated with five partner companies across Australasia, we're able to call on significant resources enabling us to undertake large, complex projects anywhere in the South Pacific.

INSOL – THE CHOICE FOR SUPERIOR SOLUTIONS

We're a team of professional and trusted innovators who truly understand the requirements of both architects and construction professionals.

Our experience across design, engineering, manufacturing and construction projects is unmatched by anyone else in the industry. We will work with you to custom design, engineer and build to your specific requirements.

If you're wanting superior architectural façade solutions to suit New Zealand conditions and construction and design standards, then we're the team for you.

**Got a project that requires
a unique facade treatment?**



Share your plans and get advice from our experts

enquiries@insol.co.nz





7 Waokauri Place
Mangere Auckland 2022
Ph: 09 276 9735



34 Onslow Street
PO Box 231, Invercargill 9812
Ph: 03 216 3287



enquiries@insol.co.nz
www.insolarchitectural.com

