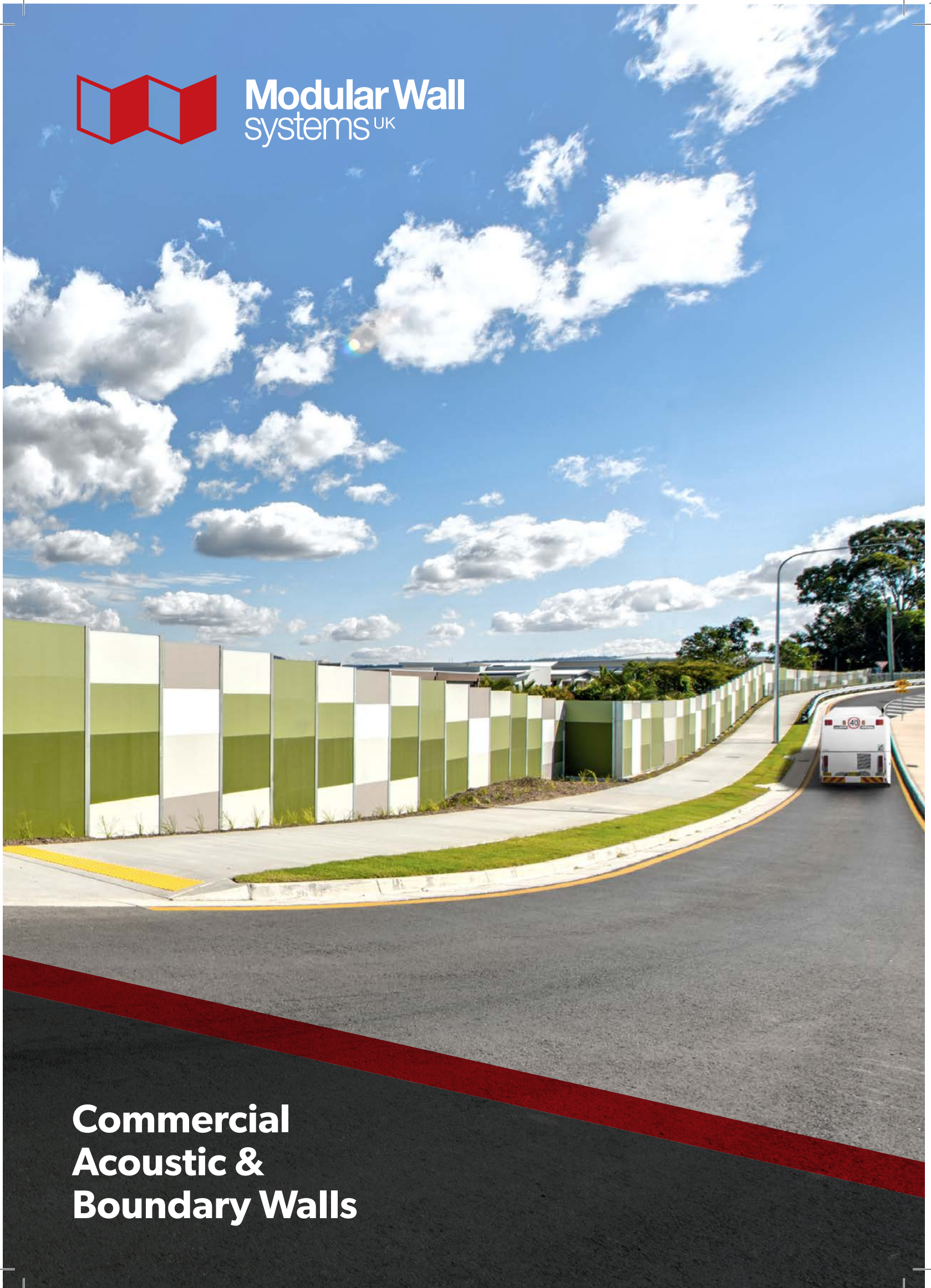


**Modular Wall**  
systems<sup>UK</sup>



**Commercial  
Acoustic &  
Boundary Walls**



Modular Wall Systems are the inventors and market leading manufacturers of cost-effective, composite, acoustic and masonry alternative walls. Our commercial acoustic walls are setting new benchmarks in sound attenuation that benefit whole communities. Modular Walls Systems has a proven performance record across thousands of commercial noise abatement, security, privacy and architectural projects having partnered with some of the globes largest companies and government departments. Modular Wall Systems are proud UK manufacturers with a reputation for quality and innovation.



**GuardianWall™**

Noise attenuation and security was needed along the recently upgraded motorway using the GuardianWall™ system with an average height of 3.3m



## About Modular Walls

As the leading manufacturers of cost effective acoustic boundary walls Modular Wall Systems can offer a solution for every challenge. Whether it be noise reduction, impact resistance, barrier for environmental hazards, customisable design, easy and fast installation requiring little infrastructure support, overcoming difficult site access, or all of the above - Modular Wall Systems is able to solve it.

Based around their innovative composite wall panels and supported by a unique post system, the modular wall system has been specifically designed to insulate, reflect or absorb sound and mitigate noise.

The products are designed by us and manufactured to strict international ISO 9001 quality standards. With 30 years proven performance, Modular Wall Systems products are applied in a wide variety of industries and government departments both nationally and internationally.

Modular Wall Systems can count thousands of successful projects - some of which have been located in the harshest and most challenging climatic conditions, offering an economical alternative to traditional walls.



### GuardianWall™

A new power transformer with complicated and challenging foundation requirements required a wall that performed well, not only as a security wall but provided the required acoustic solution as well. Modular Wall Systems worked closely with the client's in-house engineers to provide a stunning and innovative solution, a 5m high **GuardianWall™** with **AcoustiMax™75** panels.









# The Modular Wall System





## Applications

### Commercial and Acoustic Wall Solutions

For visual screening, security, boundaries, separation and acoustic attenuation with unlimited wall heights.

Suitable Wall Types:

**SlimWall™**

**VogueWall™**

**GuardianWall™**



### Retaining

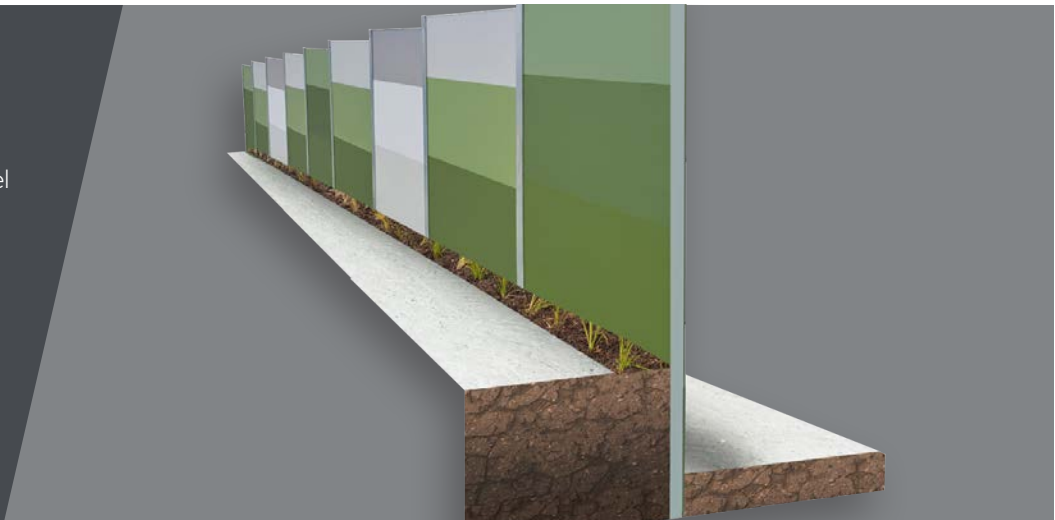
Retain up to 750mm with our integrated TerraFirm retaining panel

Suitable Wall Types:

**VogueWall™**

**SlimWall™**

**GuardianWall™**



### Custom, Gates & Decorative Features

Custom built walls, unusual features or applications and hinged or sliding composite gates. Example shown includes custom post design with sandstone veneer finish.





## Panel Solutions

### AcoustiMax - Reflective Noise Panels

Modular Wall Systems composite AcoustiMax™ panel technology provides lightweight, yet incredibly strong and rigid wall panels. Comprising of a cement outer skin around an expanded polystyrene core, they offer excellent noise reflection qualities.

Depending on individual circumstances and wall height, a reduction in audible noise in excess of 20dB can be achieved. A 10dB reduction in noise is commonly considered to represent a halving of loudness.



### McDonalds Restaurants

As population densities increase and buffer space between residences, commercial developments and infrastructure diminishes, noise is fast becoming one of the most contentious environmental problems in urban areas worldwide. Modular Wall Systems has worked with McDonalds fast food outlets providing perimeter acoustic barriers shielding the restaurant, drive-thru and car park activity from neighbouring residents. The example shows a Modular Wall System acoustic barrier shielding the McDonalds restaurant from rail noise.



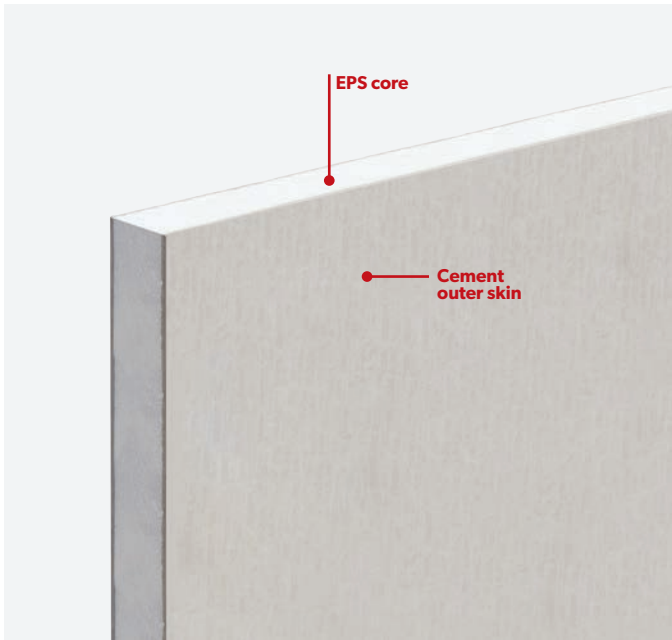






## AcoustiMax™ - Reflective Wall Panels

- Cement/EPS composite construction
- Lightweight
- Impact resistant
- Panel span up to 2.4 metres



Rw Rating	28
NRC Rating	n/a
Density (kg/m²)	15.49
Fire	Non combustble
Panel thick. (mm)	50 - 75
Panel length (mm)	2400
Panel width (mm)	600, 900, 1200
Soil Retention	See TerraFirm 75

## TerraFirm™ - Retaining Panels

- Integrated retaining wall panels
- Cement based skin to both sides
- High density EPS core
- Internal reinforcing ribs
- Retain from 750mm up to 2.5kPa



Types	TerraFirm75
NRC Rating	n/a
Density (kg/m²)	15.90
Fire	Non combustble
Panel thick. (mm)	75
Panel length (mm)	2400
Panel width (mm)	600, 900, 1200
Soil Retention	up to 750mm

### Custom Solutions Available

Modular Wall Systems have multiple wall and panel solutions, and it can be a combination of several aspects that will determine what is best suited for your particular requirements. Modular Wall Systems can tailor a wall solution to meet your exact aesthetics, height, impact and density requirement.





**Sound Enclosure**

A Fire Station required a sound enclosure to prevent noise escaping to local neighbours from an emergency generator unit



## Commercial Walls

Modular Wall Systems have changed the way commercial boundary walls are built.

With over 12,000 projects completed, they are the industry leaders for innovative composite acoustic solutions. Modular Wall Systems offer the following benefits:

- **Strong and durable**  
When erected the wall displays amazing strength. The modular wall system is comprised of composite fibre cement sandwich panels supported by a unique post system that ensures the wall will never crack.
- **Lightweight construction**  
This equates to quick and easy installation with no need for large machinery or lifting equipment, making it a cost effective solution.
- **Remote location installation**  
The lightweight properties of Modular Wall Systems allows for remote locations and difficult sites to be readily serviced.
- **Proven acoustic performance**  
Ideal for noise reduction from busy roads, loading docks etc
- **Cost effective**  
Modular Wall Systems offers a high acoustic performing solution for minimum investment.
- **Combats all the elements**  
Modular Wall Systems will not rot, is impact resistant, warp or corrode with its structural Aluminium and HDG post options.
- **Simple and easy installation**  
Modular Wall Systems ensures almost zero wastage, saving costs, time and almost completely eliminates construction mess.
- **Fast construction times**  
The lightweight components of the modular wall system allows for extremely efficient transportation of the product even to difficult sites.
- **Customised design available**  
Design can be customised and finished in a variety of superior finishing options and quality. The modular wall has the same pleasing appearance on the back as on the front.







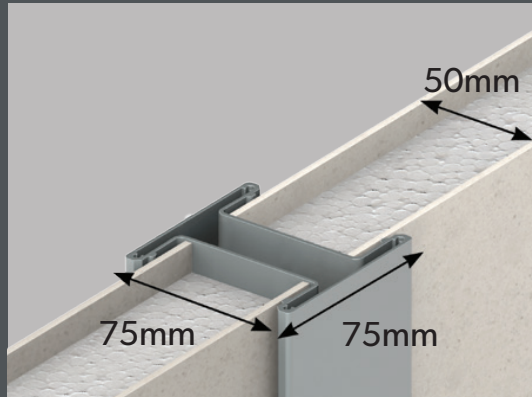


### **GuardianWall™**

A 4.2m high GuardianWall™ provided a visual amenity from a construction site whilst also providing sediment control and acoustic benefit to neighbouring residents.







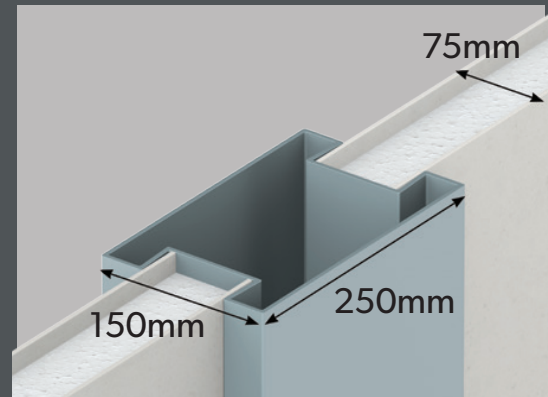
#### **SlimWall™**

Cost effective with high strength aluminium posts

**Wall Heights:** up to 2100mm

**Panel Span/Post Centres:** 2420mm

**Post Dimensions:** 75mm (W) x 75mm (D)



#### **VogueWall™**

Versatile wall with steel or aluminium posts

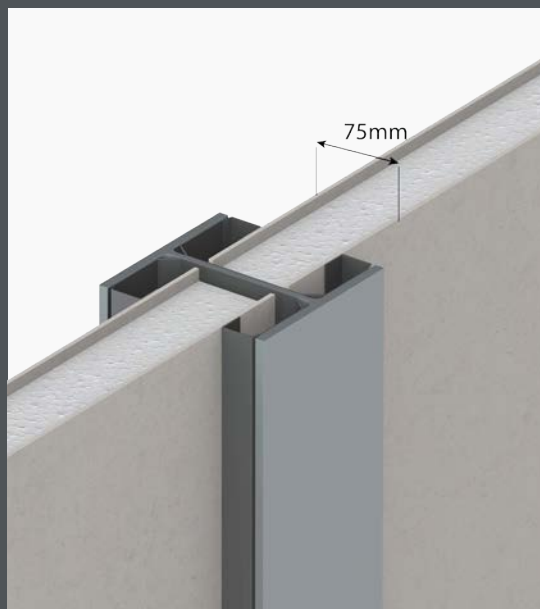
**Wall Heights:** up to 3300mm

**Panel Span/Post Centres:** 2450-2600mm

**Post Dimensions:**

100xmm (W) x 100mm (D) Aluminium Post

250mm (W) x 150mm (D) Steel Post



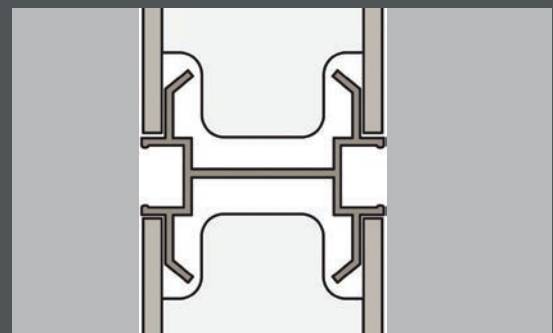
#### **GuardianWall™**

Extended design life with HDG UB posts.

**Wall Heights:** Up to 9000mm

**Panel Span/Post Centres:** 2040mm - 3040mm

**Post Dimensions:** Dependant on application and region



#### **Expressed Joint (Optional)**

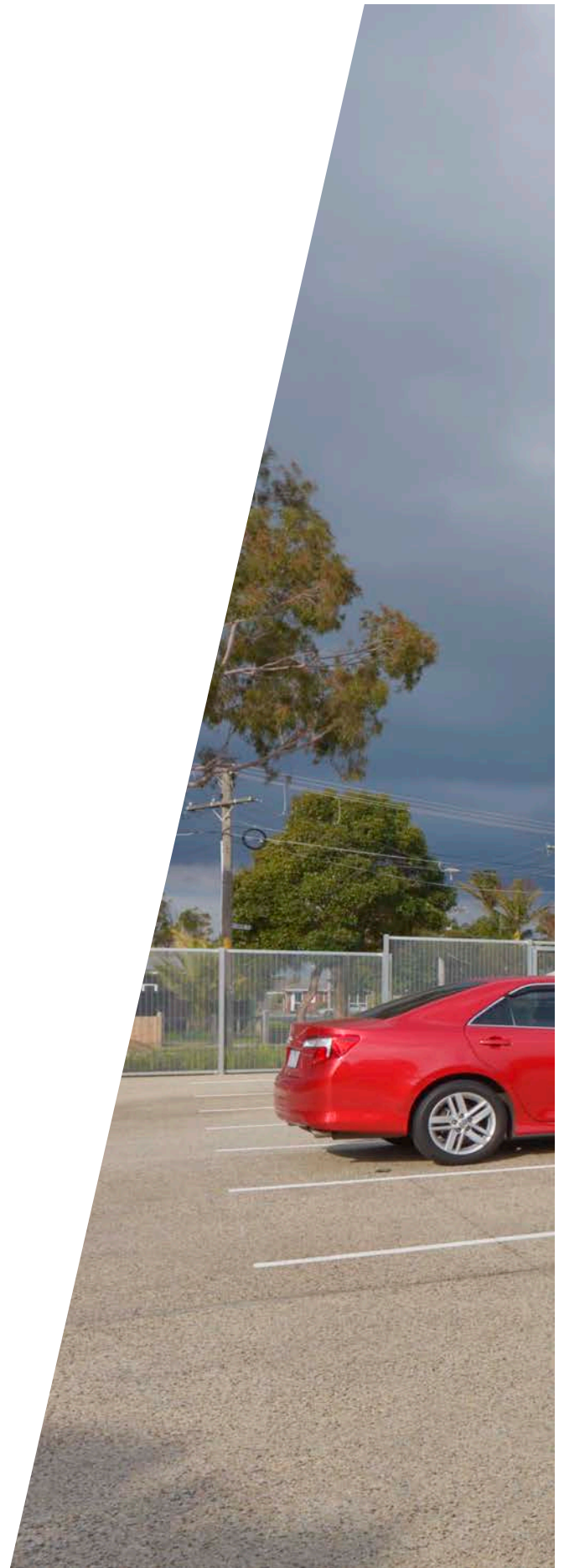
All AcoustiMax™ 75 panels are available with an architectural expressed joint look



## Sound Enclosures

Modular Wall Systems Sound Enclosures are designed to enclose and screen the noise source and deflect the noise source away from the receiver. The acoustic design of a sound enclosure is generally governed by the noise level required to meet the project goal, depending upon the application. Sound enclosures can be installed with or without composite roofing.

- **Ideal for roof tops or remote sites**
- **Ideal for air conditioning units**

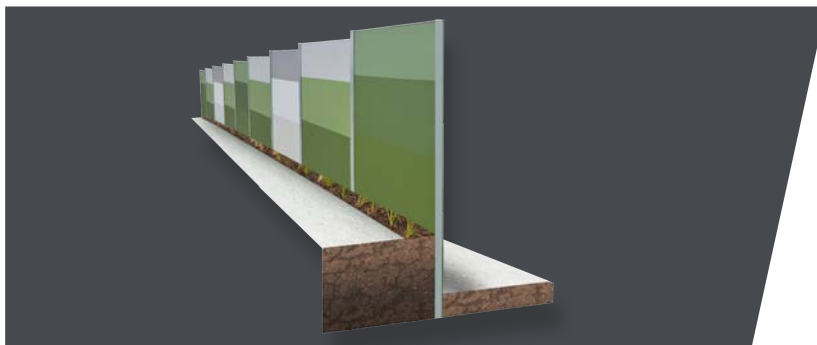




## Integrated Retaining with TerraFirm75™ Panels

Slopes can create many challenges when it comes to designing and installing a boundary wall or fence for both residential and commercial applications. Modular Wall Systems has stepped in with a solution that stylishly integrates the retaining wall and fence or boundary wall in one seamless design. TerraFirm75™ composite fibre cement retaining panels can be built into Modular Wall Systems to accommodate retaining requirements with a consistent and visually appealing wall or fence in one, without the need and cost of building a standard masonry retaining wall.

- **2.5 kPa loads**  
Retain up to 750mm
- **Cost-effective**  
Using Modular Wall Systems integrated retaining solution offers significant savings. The TerraFirm™ panels mean you don't have to invest in costly stand-alone block retaining walls.
- **Design / Aesthetics**  
Stylishly integrates the retaining wall and fence or boundary wall in one seamless design equating to heightened street appeal and a higher property value whilst maximising usable land area.
- **Performance**  
TerraFirm™ panels are reinforced, have zero water absorption, and a high retaining capacity designed and engineered to withstand surcharged loads up to 2.5 kPa at 750mm high
- **Fast, Hassle Free Installation**  
This cost-effective and tailored approach to fencing/walling with retaining wall requirements minimises waste and excessive material usage.
- **Lightweight Assembly and Minimal Site Disruption**  
Panels are finished in a textured or acrylic paint that complements the surrounding residential area providing the perfect finish.
- **Ability to be Customised**  
With a flat seamless face that can be painted any colour swatch or textured paint to integrate with the overall property.

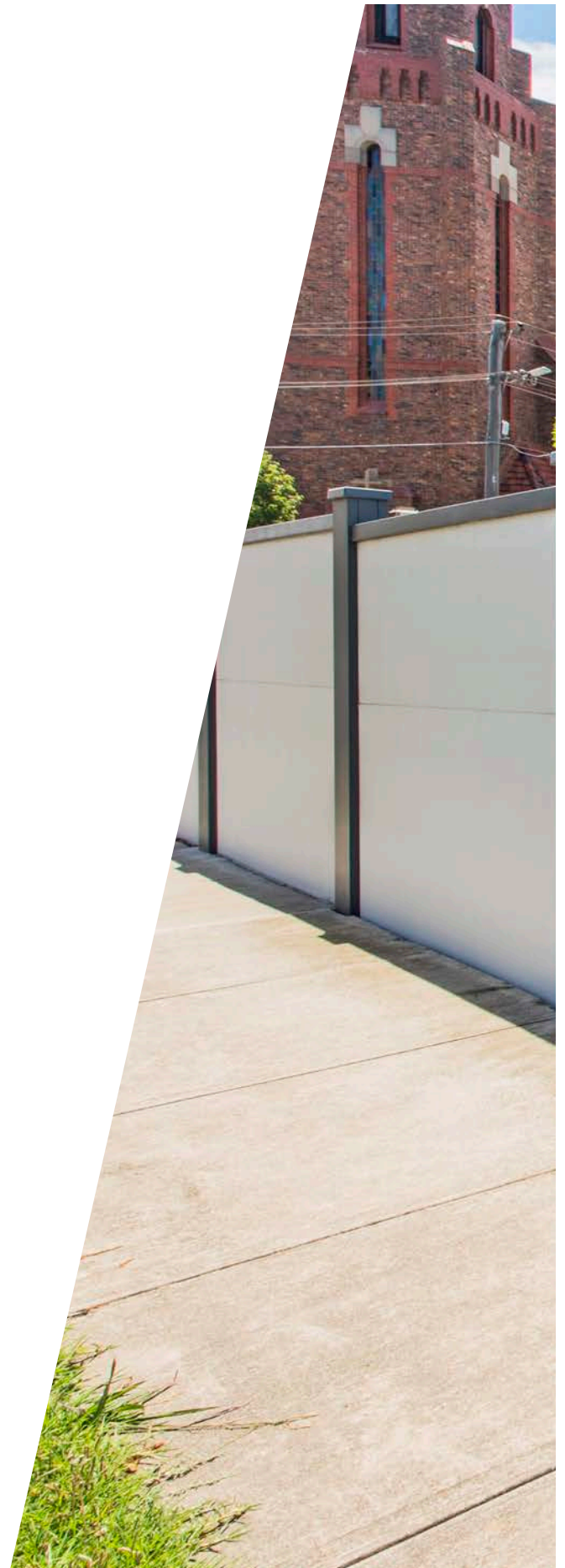




## Residential Walls

With a reputation for quality and innovation, Modular Wall Systems have changed the way residential walls are built. Their cost effective residential walls deliver the following benefits:

- **No strip footings**  
Not only is your wall erected within days, but also equates to low cost, no mess, and no hassle.
- **Cost-effective**  
A cost effective lightweight wall system that's designed to replicate the look of a rendered masonry wall.
- **Strong and durable**  
When erected the wall displays amazing brick like strength. The Modular Wall System is comprised of composite cement sandwich panels supported by a unique post system that ensures the wall will never crack.
- **Acoustically rated**  
Ideal for noise reduction from busy roads.
- **Resistant to the elements**  
Modular Wall Systems will not rot, dent, warp or corrode.
- **Simple and easy installation**  
Modular Wall Systems ensures zero wastage, saving costs and almost completely eliminates construction mess.
- **Fast construction**  
The lightweight components of our Modular Wall System allows for extremely efficient transportation of the product even to difficult sites.
- **Multiple Applications**  
Perfect for boundary walls, estate front fences and feature walls.
- **Customised design available**  
Design can be easily customised with slats, letterboxes, and lighting and finished in a variety of different coatings and colours.
- **Integrated retaining**  
Utilise our proven TerraFirm™ composite retaining panel to achieve integrated retaining capabilities. to further enhance aesthetics and drive project costs down.











### **SlimWall™**

Premium fencing and cost effective...

#### **Components:**

Durable structural aluminium posts

Fibre cement / EPS panel

**Wall Heights:** up to 2100mm

**Panel Span/Post Centres:** 2420mm

**Panel Width:** 50mm

**Post Dimensions:** 75mm (W) x 75mm (D)



**VogueWall™** Versatile enough to suit any architectural style.

#### **Components:**

Durable structural aluminium posts

Fibre cement / EPS panel

**Wall Heights:** up to 3300mm

**Panel Span/Post Centres:** 2600mm

**Panel Width:** 75mm

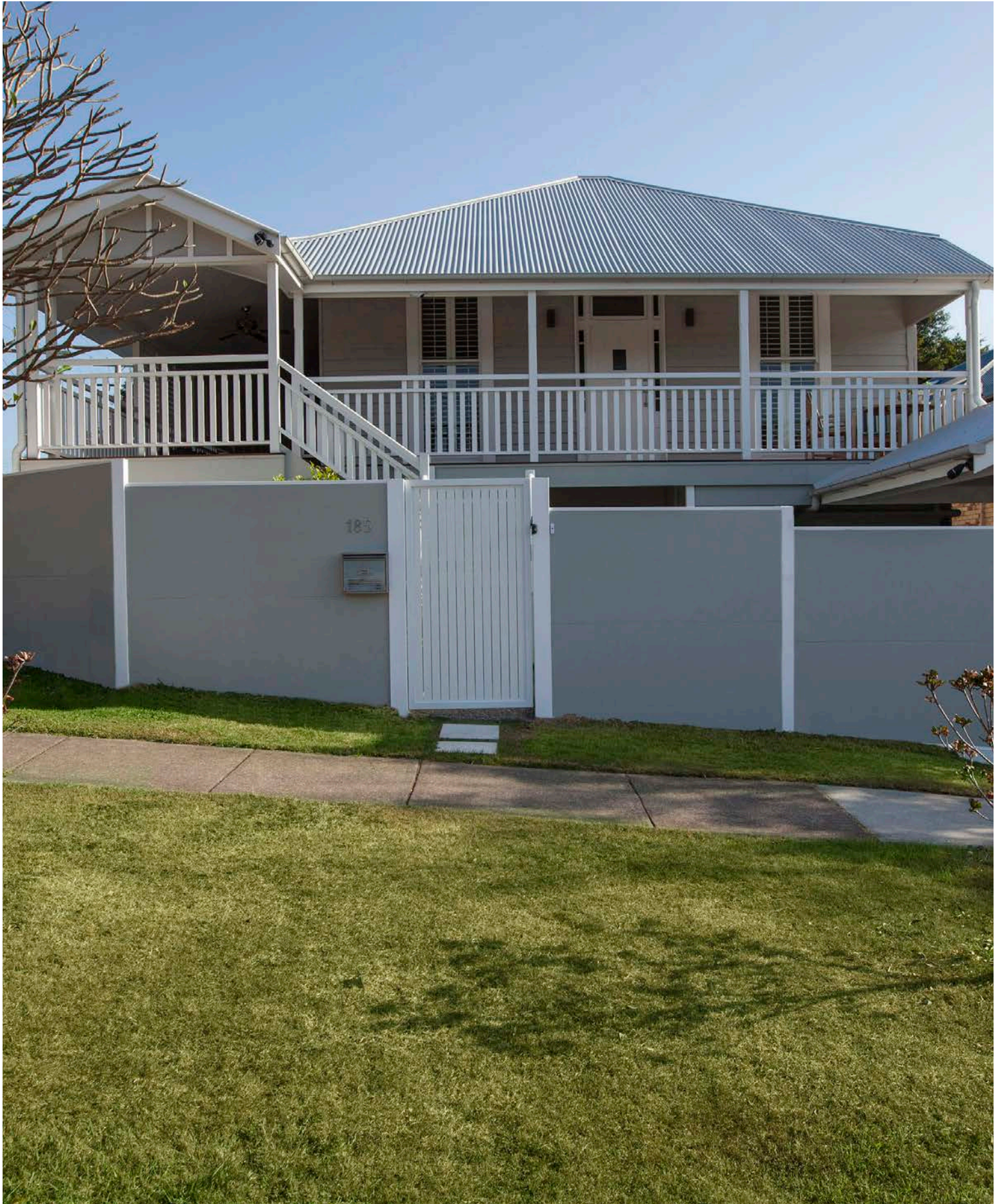
**Post Dimensions:** 100mm (W) x 100mm(D) Aluminium or 250mm (W) x 150mm (D) Steel



### **Slats & Gates**

- Solid Modular hinged composite gates.
- Maintain access with acoustic integrity.
- Complete kits including hinges and latches.
- All wall styles are designed to seamlessly accommodate slats or infills.







## Installation

Modular Wall Systems have an in-house installation team who oversee the whole installation project. Because they are in-house they guarantee a seamless transition from design approval through to product manufacture and final installation. The Modular Wall Systems team have managed design and installations for some of the globe's largest companies in remote regions. They have an experienced team of accredited and licensed commercial installers that offer a complete and seamless service from concept through to delivery.

## Design & Engineering

With vast experience on all levels, Modular Wall Systems have the skills and capability to get the job done right.

Their engineering designers will assist contractors in completing a project on time and on budget, using the latest and most up to date computer programs to design and model your complete wall and footing solution. Using leading edge structural analysis engineering software, they design and construct the most robust structures from the ground up to ensure your project is completed as cost effectively as possible.











### Gas mining – GuardianWall™

In direct response to exacting requirements for a multi-million dollar gas extraction project, Modular Wall Systems developed the **ThermaMax™** panel.

A modular thermal heat control solution not previously available. This was specifically used to provide a thermal security perimeter to open flare burn off points and reducing temperatures by up to 150°C.



## Case Study 1

# New Premium Community Development Fencing Solutions

### Challenge

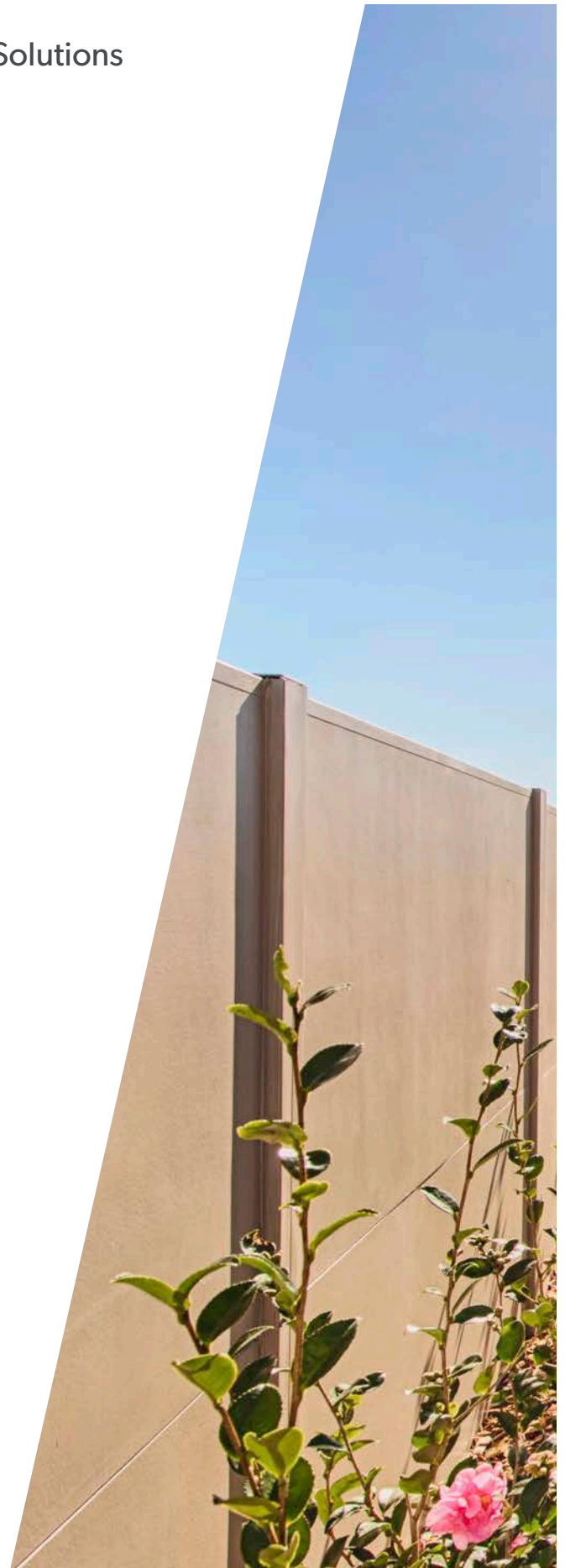
The developer set out to create a new premium, master-planned community in which would offer a diverse range of home options and the very best in modern indoor/outdoor living. This presented the developer with a challenge in delivering an estate which would stand out from the rest and deliver on the vision without compromise. It was evident that many retaining walls would be required for the boundaries of new home lots and these would then need to accept fencing on top.

### Solution

After consultation with the development manager and designers, Modular Wall Systems proposed to use our SlimWall™ fencing which would integrate retaining wall heights up to 750mm. This enabled the developer to minimise contractors and save money on the overall project cost due to the SlimWall™ retaining on the boundary and extending to the finished fence height.

The solution addressed the vision to create a premium estate by offering a premium fence to every rear and side boundary, promoting a consistent look and feel throughout the estate while creating private outdoor havens for each property due to the premium aesthetic and acoustic properties inherent in each and every SlimWall™. This means the development now has a point of difference to other new estates within the region and has contributed to not only increased interest from potential clients, but faster sales velocity of registered lots.

The developer is so pleased with the solution, they have now commissioned use of our premium VogueWall™ for the dress circle within the estate and further utilising our TerraFirm™ composite retaining panels.









## Case Study 2

### An Aesthetically Superior Versatile Noise Barrier

#### Challenge

A local council body required a noise attenuation wall to separate a newly expanded roadway. The project needed to meet strict conditions, including extended design life and impact resistance together with high acoustic performance, a key component of the solution was to maintain a superior aesthetic look similar any domestic wall built by Modular Wall Systems.

Not without construction challenges either, our team also needed to design with integrated retaining panels and pedestrian interaction in mind.

#### Solution

Modular Wall Systems worked with the contractor to present a high performing and cost-effective solution. The unique GuardianWall™ incorporated AcoustiMax™75 panels to comfortably exceed all requirements including the required 31+RW (Weighted Sound Reduction Index) ensuring outstanding noise abatement. But the stand-out feature of this wall was the cutting edge aesthetics. The customised design ensured a simple, singular beam footing that integrated with the existing retaining wall. A unique characteristic of the panels was a 'fit for purpose' UB infill by Modular Wall Systems that ensured a like finish on both sides, eliminating the inferior, yet common trait, of having a 'good' and 'bad' side. Given the benefits of GuardianWall™ requires no heavy lifting equipment at time of installation, contractors installed it with ease and within a very short time frame.









### Case Study 3

## Acoustic Solutions for Petrol Stations

### Challenge

A Petrol Station had to construct an acoustic and visual wall to shield adjacent neighbours from the operational noise of its 24 hour service. Owing to an unstable existing retaining wall between the construction site and neighbouring properties, the solution needed to encompass a complex cantilevered post system to transfer wind loading onto stronger areas of soil. An extended design life was also a key requirement.

### Solution

The GuardianWall™ system, utilising galvanised UB support columns, was deemed suitable for this project. A unique GuardianWall™ solution was quickly designed and fabricated by Modular Wall Systems™ to ensure the residents were not exposed to construction noise. The requirement for the top of the wall to meet specific height Reference Levels imposed by Council resulted in significant challenges when completing the footing foundations. However, persistence and ingenuity resulted in a fully compliant project. The final GuardianWall™ design was 1.5m - 3.0m high and 76.4m long, comprising of 29 individual cantilevered posts and AcoustiMax™ 75 panels which exceeded the required 20+RW (Weighted Sound Reduction Index) acoustic, subtle values. A final lick of paint resulted in a highly professional and subtle practical noise barrier with 40+ year design life.









#### Case Study 4

## McDonalds Chooses Modular Wall Systems as their Acoustic Soutlion

### Challenge

When leading global Foodservice retailer McDonalds builds a new restaurant they rely on the best so Modular Walls Systems was specified on the plans by the consulting engineers for this new store construction. The development application for the site came with council requirements of a perimeter acoustic barrier wall shielding the drive-thru and car-park activity from neighbouring residents. Given it's a custom design McDonalds store specifically tailored to link the restaurant with the heritage and character of the local area, aesthetics of the perimeter wall was critical.

### Solution

The solution offered by Modular Wall Systems was a 70 metre long x up to 2.4 metre high VogueWall™ utilising the sound reflecting and high impact resistant AcoustiMax™ 75 panels providing a noise reduction of almost 30dBa. The whole wall was fitted to the top of the new core-filled block wall by core-drilling and grouting core-hole post receptors into the block wall. Because of its decorative and versatile design, the VogueWall™ perfectly met the aesthetic requirements.









## Case Study 5

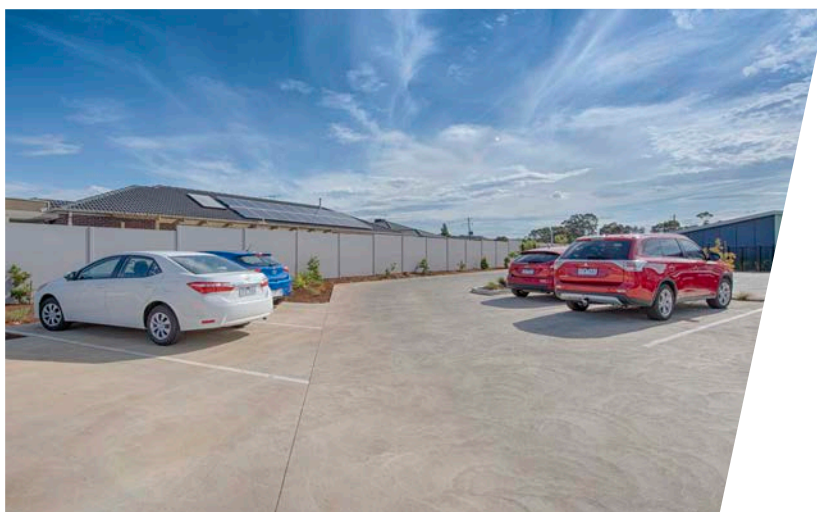
# Customised Nursery Acoustic Solution

### Challenge

Modular Wall Systems was given the challenge to come up with a cost effective acoustic solution that had to comply with strict council criteria for a local nursery. Firstly, a robust panel density specification of 22kgs m<sup>2</sup> was determined by the client's acoustic consultant that had to be met or exceeded. Having previously worked on acoustic solutions for many Early Learning Centres' this challenge saw the team at Modular Wall Systems in familiar territory. As the Early Learning Centre's location adjoins residential housing, the solution had to not only shield local residents from the playground noise, but resolve their request for an aesthetically pleasing fence.

### Solution

The noise abatement panel that was developed for the project was a modified version of Modular Wall Systems AcoustiMax™75 with an additional integrated central fibre cement layer. The customised panels ingeniously utilised the typical SlimWall™ support posts so from the outside the system looked like an aesthetically pleasing SlimWall™. The SlimWall™ fence measuring 2.1m high x 155m long, utilising this upgraded panel was instrumental in shielding local residents from the playground noise, as well as providing an extremely secure perimeter ensuring the children's safety. The Nursery along with their acoustic consultant were extremely pleased by the end result, which only took 11 days to install. Modular Wall Systems™ provided a turnkey solution from concept drawings, detailed design and engineering through to installation.









## Case Study 7

# Acoustic Solutions for Aged Care Facilities

### Challenge

A new aged care facility along a busy roadway wanted an acoustic boundary wall that also looked great. The original council plans called for a timber fence along the main road boundary, which was quickly deemed unsuitable due to the high traffic noise and unappealing veneer.

### Solution

The client sought out a more aesthetically pleasing solution to match the prestigious image of their premier facility and quickly settled upon the VogueWall™ system, which utilises the AcoustiMax™75 panel. Modular Wall Systems worked closely with our client, local council and the contractor to design a wall that not only blended with the surrounding landscape, but carefully navigated between the existing trees that had a preservation order on them. The minimal impact design of the Modular Wall Systems post footing was a perfect fit for this application. To enhance the natural, landscaped “feel” of the wall, setback bays were installed every 9 metres and a designer-series stone cladding applied. The final touch included painting in “Iron Stone” and a non-sacrificial anti-graffiti top coat to ensure a sophisticated finish that will last for many years to come.









## Case Study 8

### Dual Panel Noise Attenuation Screen - Hospital

#### Challenge

The St George Hospital recently upgraded its premises. The construction noise during the renovation was adversely affecting the hospital's customer service call centre that was located within 10 metres of the demolition works. The option to relocate the call centre to another location within the hospital was too costly and without a quick noise mitigation solution, hospital management was considering adjourning the construction works.

#### Solution

Modular Wall Systems designed and constructed a customised solution for this project based on the distinctive and challenging acoustic requirements.

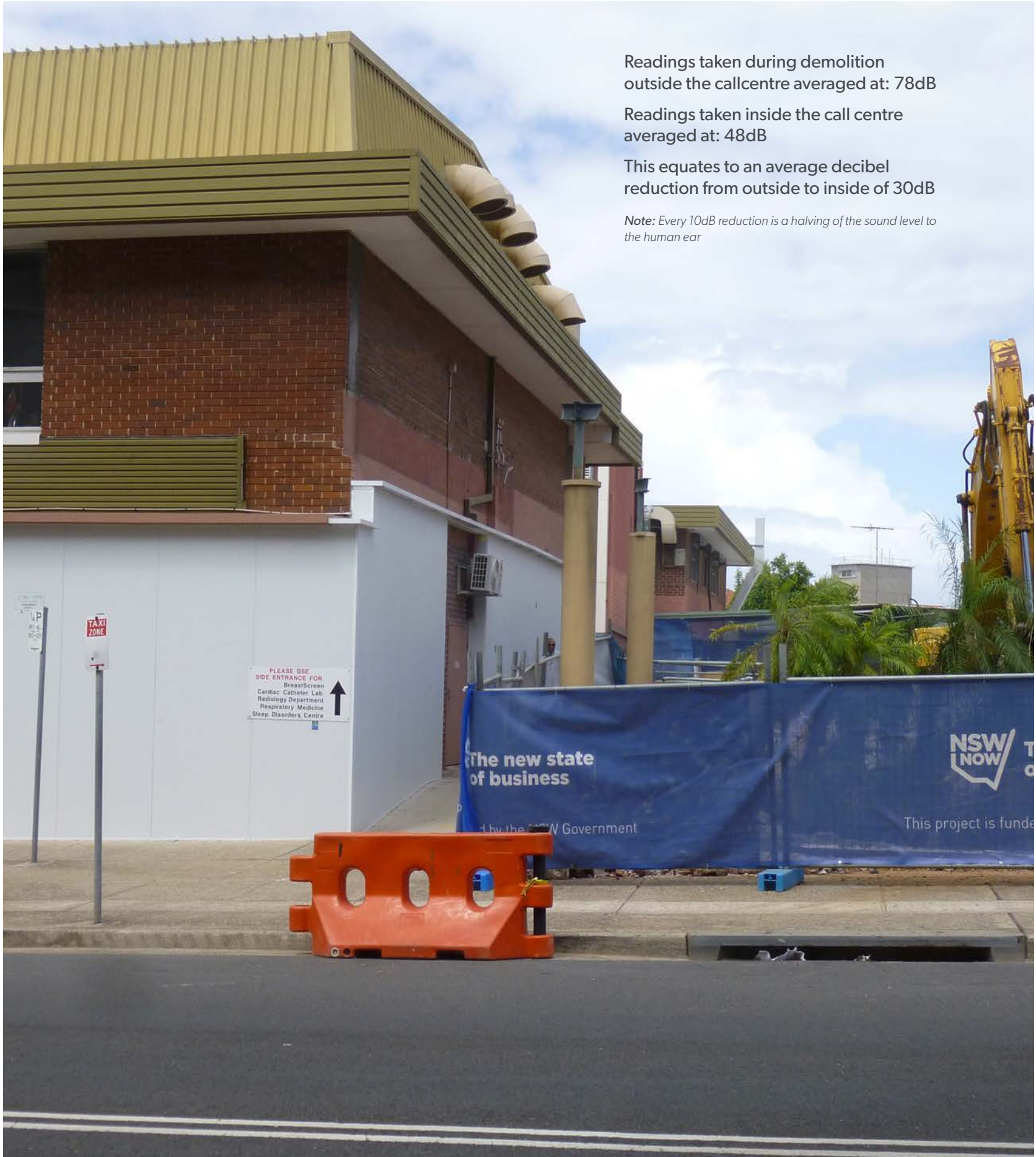
A 4m high double panel system was installed on the outer face of the building to surround the call centre. An air gap in between the panels provided superb acoustic insulation and a cavity to reduce reverberation. A custom mounting system was developed to suit the site resulting in a very fast and efficient installation. The entire solution was installed in just 6 days and an eventual noise reduction of 40dB (weighted level of difference) was achieved. This is equivalent to an 8 fold audible reduction. Another example of how Modular Wall Systems is in the forefront of innovation and is able to custom design a noise abatement solution for its clients based on their unique requirements.



BEFORE







Readings taken during demolition  
outside the callcentre averaged at: 78dB

Readings taken inside the call centre  
averaged at: 48dB

This equates to an average decibel  
reduction from outside to inside of 30dB

*Note: Every 10dB reduction is a halving of the sound level to  
the human ear*



## KFC Restaurants

Modular Wall Systems have provided acoustic walls to shield local residents from the noise associated with KFC drive-throughs. These walls not only shield residents from noise, but provide an attractive perimeter wall and improve security.











**Modular Wall.co.uk**

**0800 9155429**