



# Caltex Guildford, NSW

## Acoustic Solutions for Service Stations

### Challenge

A Caltex service station in Sydney's west had to construct an acoustic and visual wall to shield adjacent neighbours from the operational noise of a 24 hour Star Mart service station. 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 our wall to meet specific height Reference Levels imposed by Fairfield City 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 values. A final lick of paint resulted in a highly professional and subtly practical noise barrier with 40+ year design life.



**Modular Wall  
systems**

## Industry Leader in Innovative and Cost-Effective Acoustic and Boundary Walls

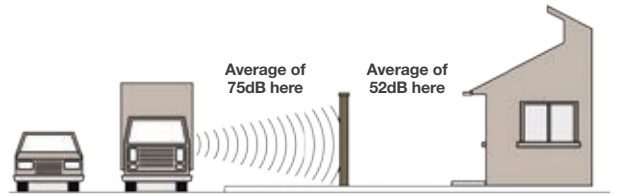
- Proven acoustic performance
- Cost effective
- Durable, light weight modular construction
- Quick and easy installation
- Suited to environmentally harsh and remote locations
- Good green efficiency rating



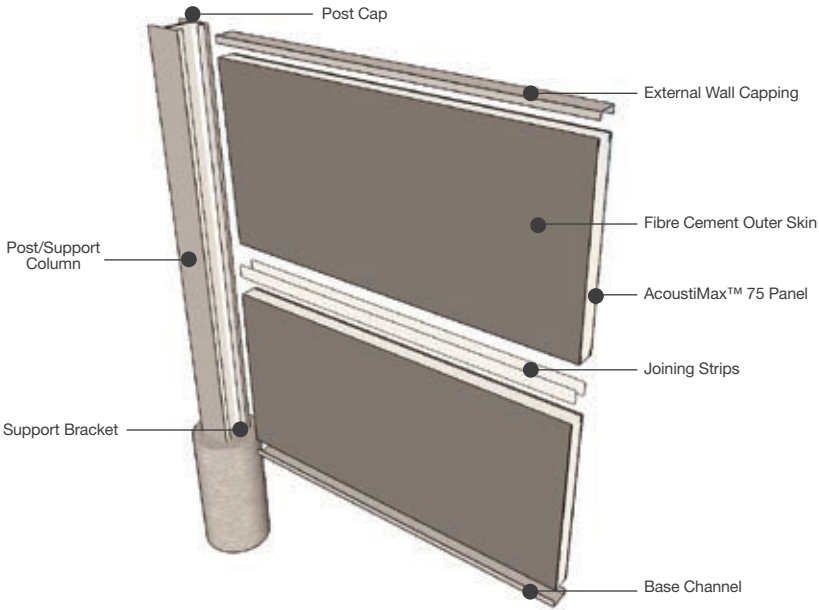
Call us on **1300 556 957** or visit  
[www.modularwalls.com.au](http://www.modularwalls.com.au)

## Acoustic Qualities

All Modular Wall Systems products have acoustic properties and are National Acoustic Lab tested and rated with reflective panels achieving a **20+ dBA** improvement and absorption panels exceeding a **Noise Reduction Coefficient (NRC) of 0.9**.



## GuardianWall Construction



### GuardianWall Support Column

The dimensions of the GuardianWall support column vary according to engineer specifications.

## Footing Depth Table

Wall Height	Hole Depth into firm earth or clay		Hole Depth into sand, soft clay or loose earth		Hole Diameter
	Wind Region A & B	C	Wind Region A & B	C	
1800mm	650mm	You will need engineering advice beyond the scope of this publication. Please contact our team directly for this information.	800mm	You will need engineering advice beyond the scope of this publication. Please contact our team directly for this information.	For all wind regions the post hole diameter should be your post width plus 100mm
2100mm	700mm		900mm		
2400mm	800mm		1000mm		
2700mm	900mm		1100mm		
3000mm	1000mm		1200mm		
3600mm	1200mm		1400mm		

Custom wall heights up to 10 metres available. Please consult our team for specifications.

## 'Post Centre to Post Centre' guide

GuardianWall	
PANEL SIZE	POST CENTRES
2400mm	2440mm
2700mm	2740mm
3000mm	3040mm

