

Atlantis®
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Sea Spray Caravan Park

Project Location

Western Australia, Australia

Atlantis Application

Permeable Paver

Project Overview

Sea Spray Caravan Park required a durable access road system capable of supporting regular vehicle and pedestrian traffic while allowing rainfall to infiltrate through the pavement surface.

Atlantis Gravel Cell® was installed across approximately 2,000 m² of the caravan park's access roads to create a stabilised, permeable pavement. The interconnected cellular structure was filled with blue metal, providing a trafficable gravel surface while maintaining void space for stormwater to pass through the pavement and infiltrate into the surrounding ground.

The modular system also enabled rapid installation, with the 2,000 m² pavement area completed in less than one week ahead of the busy Easter long weekend.

Technical Summary

Project	Sea Spray Caravan Park
Location	Western Australia, Australia
Application	Permeable Access Roads
Completion	April 2009
Installation Area	2,000 m²
Surface Use	Vehicle & Pedestrian Access
Atlantis System	Gravel Cell®
Infill Material	Blue Metal
Stormwater Strategy	Permeable Pavement / Infiltration

Design Challenge

Caravan park access roads must accommodate frequent vehicle movements while maintaining a stable and functional surface under changing weather conditions.

For this project, the pavement system needed to:

01 Provide a stable access surface for regular vehicle and pedestrian traffic.

02 Allow rainfall and stormwater to pass through the pavement rather than relying on an impermeable road surface.

03 Maintain permeability while providing structural support beneath the gravel surface.

04 Distribute vehicle loads across the interconnected cellular pavement structure.

05 Accommodate approximately 2,000 m² of access roads within the development.

06 Enable efficient installation within a restricted construction programme ahead of the Easter holiday period.

Solution

Atlantis Gravel Cell® was installed across the caravan park access roads to form a cellular reinforcement layer beneath the finished gravel surface.

The open lattice modules interlock to create a continuous pavement structure that distributes vehicle loads across the installed area while stabilising the aggregate within the cells. Blue metal was placed within the cellular structure to provide the required finished surface while retaining approximately 50% void space within the system.

This open pavement configuration allows rainfall to pass through the gravel surface and cellular layer into the surrounding ground, combining vehicle access with an infiltration-based stormwater strategy. The modular installation also allowed approximately 2,000 m² of access road to be completed in less than one week.

Design Benefits

✓ Permeable access surface allowing rainfall to infiltrate through the pavement.
✓ Cellular confinement providing stability to the gravel infill.
✓ Interlocking structure distributing loads across the pavement area.
✓ Trafficable surface suitable for vehicle and pedestrian access.
✓ Approximately 50% void space maintained within the cellular structure.
✓ Modular installation suitable for large pavement areas.

Construction Considerations

The project photographs document a straightforward modular installation sequence, with Gravel Cell® panels progressively installed within the formed access roads before being filled with aggregate. The original case study specifically shows the cells being installed along the road edges and the completed gravel surface.

Construction involved:

- Preparation of the access road area.
- Placement and interconnection of Gravel Cell® modules.
- Cutting and fitting modules around pavement edges and curves.
- Filling the cellular structure with blue metal.
- Levelling the aggregate to form the finished trafficable surface.

Project Outcomes

- Approximately 2,000 m² of permeable access road installed.
- Installation completed in less than one week.
- Project completed ahead of the busy Easter long weekend.
- Gravel Cell® incorporated beneath the access roads as a cellular pavement reinforcement system.
- Blue metal infill provided the finished gravel surface.
- Permeable pavement allowed rainfall and stormwater to infiltrate through the road surface.
- Vehicle and pedestrian access maintained over a stabilised gravel pavement.

Technical Insight

Permeable pavement systems can perform two functions within the same surface area: providing trafficable access while allowing rainfall to move vertically through the pavement profile.

Cellular confinement helps stabilise loose aggregate by restricting lateral movement while distributing applied loads through interconnected modules. At the same time, the open structure maintains void space through which water can pass, allowing the pavement surface to form part of the site's stormwater management strategy.

Did You Know?

How can a gravel pavement remain permeable while supporting vehicle traffic?

Loose gravel can migrate laterally under repeated vehicle loading, leading to rutting, displacement and an uneven driving surface.

A cellular confinement system creates a structural matrix around the aggregate, restricting lateral movement and distributing loads across the interconnected pavement area. Because the cells remain open and are filled with permeable aggregate, rainfall can continue to pass vertically through the pavement rather than being shed from an impermeable surface.

This allows the same pavement area to provide trafficable access, aggregate stabilisation and stormwater infiltration.













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Thank You For Your Attention



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