

Atlantis®
GREEN CITIES FOR LIFE

Macquarie University

Project Location
North Ryde, NSW, Australia

Atlantis Application

Permeable Surface

Project Overview

Macquarie University required additional parking capacity after its existing car park became insufficient for the volume of vehicles using the campus. The new overflow facility was designed as a permeable, turf-covered car park rather than a conventional sealed parking surface.

The project incorporated 9,843 m² of Atlantis® Turf Cell™ 52 mm to form reinforced grass parking areas. The cellular panels were installed over permeable soil, filled with sandy soil and covered with turf to provide a trafficable vegetated surface while maintaining surface-water infiltration.

Technical Summary

Project	Macquarie University
Location	North Ryde, NSW, Australia
Application	Permeable Surface
Completion	March 2017
Size	9,843 m²
Surface Use	Overflow Vehicle Parking
Atlantis System	Turf Cell®

Design Challenge

The university required additional vehicle parking capacity while maintaining a permeable, vegetated surface. The overflow parking areas needed to accommodate vehicle loading without exposing the turf root zone to direct compaction, while allowing rainfall to infiltrate through the completed pavement.

01 Provide additional overflow parking capacity for the university campus.

02 Create a trafficable surface suitable for vehicle parking.

03 Maintain a turf-covered finish across the parking areas.

04 Protect the grass root zone from direct vehicle-induced compaction.

05 Allow horizontal and vertical root growth within the cellular pavement.

06 Maintain surface-water absorption and infiltration through the completed parking surface.

Solution

A total of 9,843 m² of Atlantis Turf Cell® 52 mm was installed to form the permeable overflow parking areas.

The Turf Cell® panels measured 480 mm × 260 mm × 52 mm and incorporated a rigid interlocking clipping system. The cells were laid over a bed of permeable soil and filled with sandy soil before turf was placed over the interconnected cellular surface.

Following placement, the turf was rolled with a heavy roller to press the roots into the soil contained within the cells. The completed configuration provided a vegetated trafficable surface while protecting the root zone from compaction and allowing root development both horizontally and vertically.

Benefits

- 9,843 m² of permeable overflow parking provided.
- Turf-covered finish maintained across the vehicle parking areas.
- Cellular structure protected the grass root zone from compaction.
- Sandy soil contained within the Turf Cell® profile supported turf establishment.
- Root growth accommodated horizontally and vertically within the pavement.
- Surface-water absorption and infiltration maintained through the vegetated surface.
- Cellular reinforcement concealed beneath the established grass surface

Considerations

The documented installation used Turf Cell® 52 mm panels laid over permeable soil and mechanically interconnected through the system's rigid clipping mechanism.

The cells were filled with sandy soil before turf placement. Heavy rolling was undertaken after installation to press the turf roots into the soil contained within the cellular structure.

The project was undertaken by J & G Excavations and Asphalting (NSW) Pty Ltd.

Project Outcomes

- 9,843 m² of Turf Cell™ 52 mm incorporated into the overflow car park.
- 480 mm × 260 mm × 52 mm interconnected cellular panels used across the installation.
- Turf Cell™ installed over a permeable soil bed.
- Cells filled with sandy soil before turf installation.
- Turf rolled following placement to establish contact between the roots and soil within the cells.
- Root zone protected from direct vehicle-induced compaction.
- Horizontal and vertical root growth accommodated within the cellular pavement.
- Surface-water absorption and infiltration maintained through the completed parking surface.
- Finished cellular reinforcement concealed beneath the established turf.

The completed overflow car park combined vehicle parking with a reinforced vegetated surface, using the cellular structure below the turf to protect the root zone while maintaining permeability.

Did You Know?

The Macquarie University installation used 9,843 m² of Turf Cell™ to create reinforced grass overflow parking.

The 52 mm cells were installed over permeable soil, filled with sandy soil and covered with turf. Once established, the grass concealed the cellular reinforcement while the structure beneath protected the root zone from vehicle compaction and maintained surface-water infiltration.











Atlantis®
GREEN CITIES FOR LIFE

Thank You For Your Attention



Contact Us

Phone Number:
+61 (2) 9417 8344

Website:
www.atlantiscorporation.com.au

Email Address:
info@atlantiscorp.com.au