



STORMWATER MANAGEMENT UNDER THE PAVEMENT WITH ATLANTIS FLO-VAULT

PRODUCTS USED

ATLANTIS FLO-VAULT® MODULAR SYSTEM

- Made from recycled polypropylene, the tank is formed with internal columns, offering a high load capacity
- Saves up to 70% in assembly time with lightweight tank modules that make installation quicker, taking less than 30 seconds to construct compared to panel formed tanks
- Maximises storage capacity with over 90% void space, compared to less than 20% in aggregate trenches. The Flo-Vault system matches the storage capacity of aggregate trenches but with a smaller footprint, saving time and money on installation and civil works
- Uses surface and underground infiltration techniques resulting in clean water that can be re-used or allowed to re-enter the natural water system

BIDIM® GREEN NON-WOVEN GEOTEXTILE

- Premium non-woven geotextile made with a combination of recycled PET and virgin plastic material
- Excellent performance in filtration, separation, drainage and protection applications
- Reduced need for quarried fill materials and reduced construction times
- A strong three-dimensional structure with high elongation and equal biaxial strength properties in both directions

PROJECT DESCRIPTION

A new warehouse development, located in Broadmeadows, was constructed on the site of an old Woolworths Major Distribution Centre. The existing stormwater infrastructure was inadequate to handle the expected water volume created by increased paved areas due to the large-scale new development.

Geofabrics was approached by the contractor, Cormack, to provide a detention tank system that would help release this higher load of runoff in a timed and controlled manner after any storm events.

OUR SOLUTION

The Atlantis Flo-Vault modular stormwater storage system was proposed by Geofabrics, with design advice, technical assistance and drawings provided by the team to assist the installer, Cormack Plumbing, and the designer, Spencer Group Engineering, on the project.

Prior to installing the tank, the site was excavated, and a bedding layer was laid. This was followed by using Bidim Green non-woven geotextile A44 as a cushioning layer for an HDPE liner, which was then laid on top. An additional Bidim Green A44 layer was laid over the liner, and construction of the tank commenced.

The Atlantis Flo-Vault halves and clips construction system allowed the tanks to be conveniently constructed. Once the tank was built, the inlets and outlets were connected, and the tank was fully sealed with the liner before backfilling. Tensar® TriAx multiaxial geogrid was further used to help with the loading and stabilisation requirements in the backfill layers above the tank. In total, three tanks were installed, allowing for retention of over 1,400m³ of storm water.

The stormwater tanks now sit below the trafficable pavement in the finished warehouse. Though invisible to all, Atlantis Flo-Vault provides crucial support to the local stormwater infrastructure.



Storage
capacity of
1,400m²



Easy
construction &
installation



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