

Atlantis®
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Altona Green Reserve

Project Location

Altona Green Reserve, Hobsons Bay Council, VIC, Australia

Atlantis Application

Stormwater Harvesting

Project Overview

The Altona Green Reserve project combined the redevelopment of existing school playground and sports facilities with new recreational and residential areas. A central objective was the retention and reuse of stormwater, with runoff from the residential development, Skipper Drive and the two sports ovals incorporated into the stormwater management strategy.

Stormwater is conveyed through swales that provide drainage, conveyance and filtration before being collected within a 400,000 litre underground storage tank. The stored water is subsequently reused for irrigation of the two sports ovals, replacing the previous arrangement in which stormwater from the area was discharged directly into Port Phillip Bay.

Technical Summary

Project	Altona Green Reserve
Location	Hobsons Bay Council, VIC, Australia
Application	Stormwater Harvesting
Completion	--
Size	400,000 litres
Surface Use	Recreational park / sports ovals
Atlantis System	Flo-Tank®

Design Challenge

The project required stormwater management to be integrated across a mixed recreational and residential development while supporting the upgrade of the existing school playground and sports facilities. Rather than continuing to discharge stormwater from the area directly into Port Phillip Bay, the project sought to retain and reuse the captured water within the development.

Multiple runoff sources needed to be incorporated into the system. Stormwater from the residential properties was directed into a filtration system beneath a swale within the recreational park, while Skipper Drive was graded towards the park to facilitate collection. Excess stormwater from the two sports ovals was also diverted into a swale.

The collected flows then required sufficient underground storage to support reuse for irrigation of both sports ovals, including one existing oval and one newly developed oval.

01 Retain and reuse stormwater within the recreational and residential development.

02 Collect runoff from the residential properties, Skipper Drive and the two sports ovals.

03 Incorporate swales for drainage, conveyance and filtration.

04 Provide 400,000 litres of underground stormwater storage.

05 Reuse stored stormwater for irrigation of two sports ovals.

06 Replace the previous arrangement in which stormwater from the area was discharged directly into Port Phillip Bay.

Solution

Stormwater from the residential properties was diverted into a filter system beneath a swale within the recreational park. Skipper Drive was sloped towards the park to facilitate collection, with road runoff discharged into a swale that functions as both a drain and conveyance system and as a filtration device. Excess stormwater from the two sports ovals was also directed into a swale.

The combined stormwater flows are collected within a 400,000 litre underground storage tank. Stored water is then reused for irrigation of the two sports ovals, integrating stormwater harvesting with the site's recreational landscape.

The underground storage system incorporated Atlantis Flo-Tank® modules wrapped in geotextile. Polystyrene infill panels were cut and installed to square up voids within the tank configuration.

Benefits

- 400,000 litres of underground stormwater storage provided for harvesting and reuse.
- Runoff collected from residential properties, Skipper Drive and the sports ovals.
- Swales incorporated for stormwater drainage, conveyance and filtration.
- Harvested stormwater reused for irrigation of two sports ovals.
- Stormwater treatment and storage enabled Melbourne Water to waive required contributions to the Laverton Drainage Scheme, providing a stated $200,000 saving to the total project cost.
- The WSUD stormwater system had an estimated individual cost of approximately $250,000.

Considerations

The underground storage system incorporated Atlantis Flo-Tank® modules wrapped in geotextile material. A polypropylene tank liner was also installed as part of the tank construction.

Polystyrene infill panels were cut and installed to square up voids within the tank, providing the required interface around the modular storage configuration.

Project Outcomes

- 400,000 litres of underground stormwater storage incorporated into the development.
- Stormwater collected from residential properties, Skipper Drive and two sports ovals.
- Swales incorporated for drainage, conveyance and filtration before underground storage.
- Harvested stormwater reused to irrigate both sports ovals.
- Previous direct discharge of stormwater from the area to Port Phillip Bay replaced by an on-site harvesting and reuse strategy.
- Stormwater treatment and storage resulted in a stated $200,000 saving through waived contributions to the Laverton Drainage Scheme.

The project integrates runoff collection, filtration, underground storage and irrigation reuse across several contributing areas. Stormwater from the residential development, Skipper Drive and the sports ovals is conveyed through swales before entering a 400,000 litre underground storage system, allowing the captured water to be retained within the development and reused for irrigation rather than discharged directly to Port Phillip Bay.

Did You Know?

The Altona Green Reserve system provides 400,000 litres of underground stormwater storage, with the harvested water reused to irrigate both the existing and newly developed sports ovals.









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Thank You For Your Attention



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