

Atlantis®
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Cato Square

Project Location
Prahran, VIC
Australia

Atlantis Application

Void Fill

Project Overview

The Cato Square project required a large-scale modular void-fill solution within a podium containing extensive services and pipework. The available void space could not be treated as a uniform volume, as the system needed to accommodate and work around multiple service penetrations and changes in available depth.

Atlantis supplied a combination of Mini Flo-Tanks, Single Flo-Tanks, Single Flo-Tanks with Mini Flo-Tanks above to form a 670 mm configuration, and 52 mm FC, providing a total gross void-fill volume of 1,172 m³.

Atlantis also assisted AECOM and WSP with the design, developing a modular arrangement capable of responding to the service congestion within the podium while maintaining the required void-fill function.

Technical Summary

Project	Cato Square
Location	Prahran, VIC, Australia
Application	Void Fill
Completion	--
Size	1,172 m³
Surface Use	Pedestrian Landscaped Podium
Atlantis System	Mini Flo-Tank®, Flo-Tank® Single, Single + Mini Flo-Tank® (670 mm H) & Flo-Cell® 52 mm

Design Challenge

The principal design challenge was the high concentration of services and pipework passing through the podium. Rather than providing a continuous unobstructed void-fill zone, the available space was interrupted by infrastructure that the void former system needed to accommodate.

This required a solution capable of adapting both horizontally and vertically around the services. Different system heights were required where available depth changed, while sections of the void-fill arrangement also needed to bridge over pipes and services so that backfill could continue above them.

The 1,172 m³ gross void-fill requirement therefore needed to be achieved through a combination of modular configurations rather than a single uniform system depth.

01 Provide 1,172 m³ of gross void-fill volume within the podium.

02 Accommodate extensive services and pipework passing through the void-fill zone.

03 Provide different modular configurations to respond to variations in available space.

04 Incorporate Mini Flo-Tanks, Single Flo-Tanks and combined Single + Mini configurations.

05 Provide a 670 mm Single + Mini configuration where required.

06 Create bridging arrangements over pipes and services to allow backfill to continue above these areas.

Solution

AAtlantis worked with AECOM and WSP during the design process to develop a modular void-fill arrangement around the podium services.

Rather than relying on one uniform module configuration, the design incorporated Mini Flo-Tanks, Single Flo-Tanks, Single Flo-Tanks with Mini Flo-Tanks installed above to achieve a 670 mm configuration, and 52 mm FC. The combination allowed the void-fill profile to respond to different available depths and the location of services throughout the podium.

Where pipes and other services crossed the void-fill zone, the modular system was configured to work around the infrastructure and create bridges above it, allowing backfill to extend over the services without requiring the entire void-fill arrangement to follow a single continuous level.

This modular approach enabled the 1,172 m³ gross volume to be distributed around the existing service constraints within the podium.

Benefits

- 1,172 m³ total gross void-fill volume incorporated within the podium.
- Multiple module configurations used to accommodate different available depths.
- Void-fill layout adapted around extensive pipework and services.
- Bridging configurations incorporated over services to allow backfill above.
- Mini, Single and combined Single + Mini Flo-Tank® configurations incorporated within the same project.
- Atlantis provided design assistance to AECOM and WSP in developing the project-specific configuration.

Considerations

The presence of extensive pipework and services required the void-fill system to be configured around multiple physical obstructions within the podium rather than installed as a uniform continuous layer.

Different Atlantis module configurations were used according to the available space, including Mini Flo-Tanks, Single Flo-Tanks and Single Flo-Tanks with Mini Flo-Tanks above, with the combined arrangement providing a 670 mm configuration.

Project Outcomes

- 1,172 m³ total gross void-fill volume incorporated into the podium.
- Mini Flo-Tank®, Single Flo-Tank® and combined Single + Mini Flo-Tank® configurations incorporated within the project.
- 670 mm combined Single + Mini configuration used as part of the modular void-fill arrangement.
- 52 mm FC incorporated within the supplied system.
- Modular void fill configured around extensive podium services and pipework.
- Bridging arrangements incorporated to allow backfill over pipes and services.

The defining aspect of the Cato Square project was not simply the volume of void fill required, but the need to distribute 1,172 m³ of modular void formers around a service-congested podium. Combining several Flo-Tank® configurations allowed the void-fill profile to respond to different available depths and bridge over pipework and services rather than requiring a uniform uninterrupted installation zone.

Did You Know?

The Cato Square podium incorporated 1,172 m³ of gross modular void-fill volume, using multiple Atlantis configurations to work around extensive services and pipework.













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Thank You For Your Attention



Contact Us

Phone Number:
+61 (2) 9417 8344

Website:
www.atlantiscorporation.com.au

Email Address:
info@atlantiscorp.com.au